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ABSTRACT

The Rural Income Maintenance Experiment (1979) used sample subjects from the Midwest and the South (Iowa and North Carolina) to measure the effect of alternative tax rates and minimum guarantees upon the work behavior of rural male heads of households. Three contingent aspects of job change behavior were examined: the impacts of support on subjects' probabilities of changing employers (241 subjects employed at the pre-enrollment interviews), their duration of unemployment (165 subjects employed at the pre-enrollment interview who subsequently left that employer), and their selection of new jobs (133 subjects employed at the pre-enrollment interview and the 8th quarterly who changed employers 1 or more times). No additive effects of support payments on changing employers were evidenced. However, relative to similar control group subjects, experimentals who initially had desirable positions were less likely to change employers than were those with less desirable positions. Time of unemployment was longer among subjects who expected less gain upon re-employment than among those who expected greater income gains. Those whose prior jobs were undesirable tended to take new jobs less desirable in terms of status and job satisfaction. Those subjects who had good jobs before tended to obtain better positions than similar controls. Experimentals with secondary earners in the family and a higher guarantee level tended to find jobs with more status and earnings. Findings were compared with the results of the New Jersey-Pennsylvania Graduated Work Incentive Experiment. (Author/CM)

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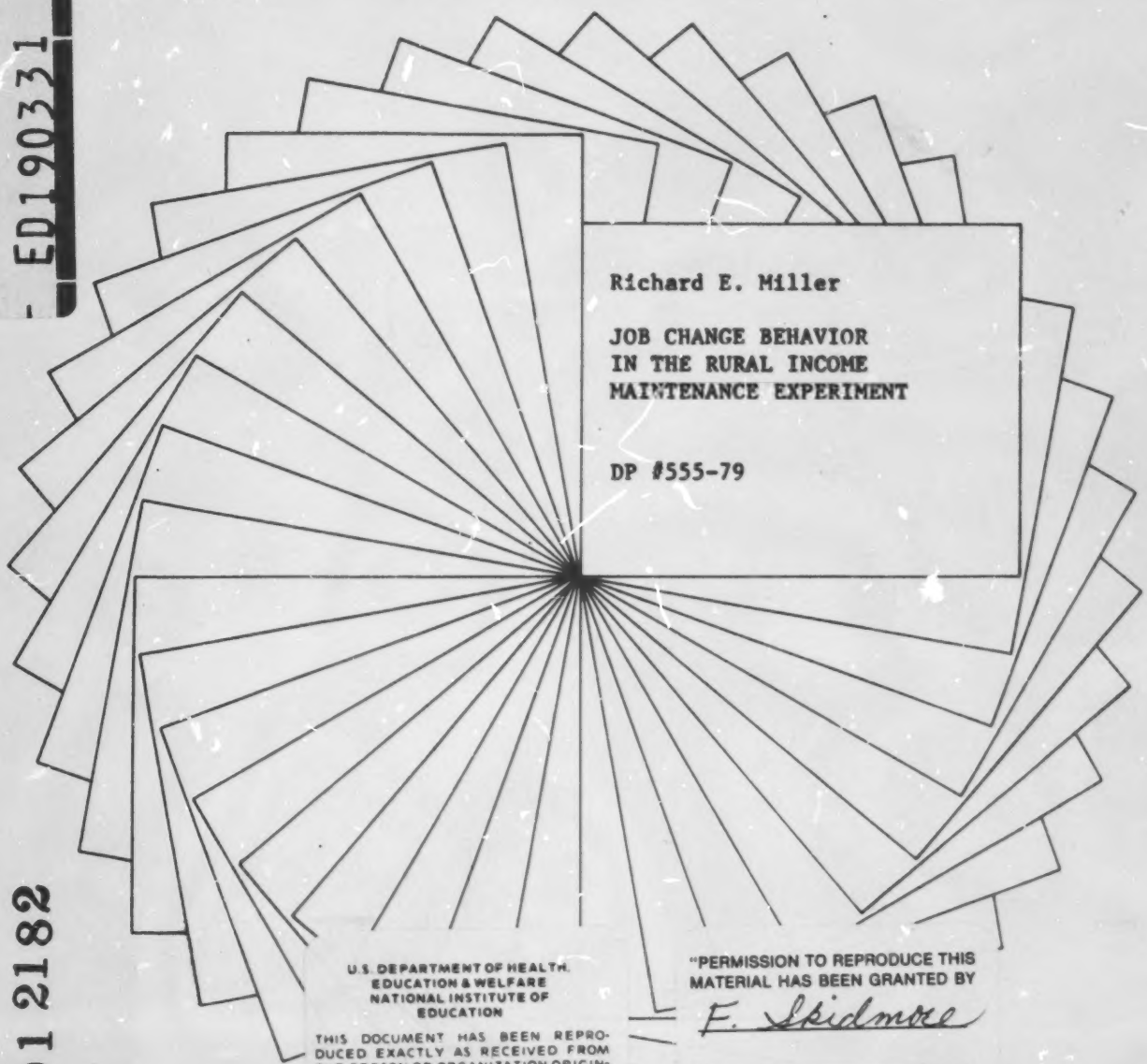

Richard E. Miller

JOB CHANGE BEHAVIOR
IN THE RURAL INCOME
MAINTENANCE EXPERIMENT

DP #555-79

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Job Change Behavior in the Rural Income Maintenance Experiment

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September 1979

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ABSTRACT

This paper examines three contingent aspects of job change behavior among male subjects in the Rural Income Maintenance Experiment: The impacts of support payments on subjects' probabilities of changing employers, their duration of unemployment, and their selection of new jobs. While no additive effects of support payments on changing employers was evidenced, some interesting interactions between treatment parameters and subjects' wage income levels and pre-enrollment job characteristics suggest that relative to similar control group subjects supported subjects with low paying and lower status jobs are more likely to change employers, while those who initially had more desirable positions are less likely.

Unemployment durations were longer among subjects who could expect less net gain in income upon reemployment and shorter among subjects who might expect greater total income gains. Experimentals whose initial jobs were the least desirable tended to obtain subsequent jobs which were also less desirable on status and job satisfaction dimensions, relative to similar control group subjects. Other experimentals imporved their positions after employment transitions: (1) Experimentals with initially high ranked jobs tended to obtain better positions than similar controls. (2) Experimentals with secondary earners in their families also improved the earning and status characteristics of their jobs, and the gain was greater the higher the guarantee level and the more the secondary income. These findings are compared with the results of a parallel analysis of job change behavior among subjects in the New Jersey-Pennsylvania Graduated Work Incentive Experiment.

Job Change Behavior in the
Rural Income Maintenance Experiment

1. THE RURAL EXPERIMENT

The Rural Income Maintenance Experiment was the second of four major experiments to test the behavioral consequences of a universal, income-conditioned cash transfer program. It followed closely its predecessor, the New Jersey Income Maintenance Experiment, in objectives and design. Of the four experiments, its principal uniqueness was that it was the only one focusing on the rural sector (farmers and those in towns of less than 2500) where over one-third of the nation's poor still reside.

The primary objective of the Rural Experiment was to measure the effect of alternative tax rates and minimum guarantees upon the work behavior of rural residents (both wage-earners and farmers) and to compare and contrast these findings with those of New Jersey. This issue remained of paramount importance because a major hurdle to adoption of a nationwide negative income tax program was the commonly-held belief that payments, even with the negative tax, would significantly reduce the work effort of nonaged, able-bodied males.

Two locations were chosen for the experiment, one in the South, the other in the Midwest. The alternative of taking a nationwide rural sample was rejected in deference to adminstrative ease and a smaller operating budget. The choice of two areas rather than one was made because policy-makers may distinguish between northern and southern rural residents. By selecting two locations, regional and ethnic differences in work incentive and other behavioral characteristics could be tested. The South was chosen because it contains a higher incidence of rural poverty than any other area in the

United States and because over half of the rural poor reside there. The Midwest was selected because it is (as classified by the USDA) "a relatively affluent area with a poor white minority."

2. JOB CHANGE BEHAVIOR: AN INTRODUCTION

An income maintenance program increases individuals' control over the timing of their work activity. The potential for this work scheduling flexibility arises from the availability of transfer payments which partially replace earnings foregone by working less (or not at all) or at a different job with a lower wage rate. The extent to which this potential for flexibility is actually exercised and the purposes to which it is applied are key issues in the evaluation of an income maintenance program. This paper focuses on work scheduling decisions during employment transitions by examining (1) how income maintenance transfers affect a wage earner's propensity to leave his employer, (2) how unemployment duration is affected by the transfers, and (3) how support payments affect job selection decisions.

What general patterns in work activity might be expected from increased work scheduling flexibility? Classical economics predicts a disincentive effect for several reasons. First, leisure is subsidized by the provision of transfer payments which guarantee a minimum income. Second, earnings are "taxed" at a relatively high rate since transfers equal a guaranteed minimum income less a substantial fraction of earnings. Hence the rational low-wage earner might be expected to substitute leisure for work effort. Concretely, higher rates of job departures among supported family heads, longer periods

of unemployment, and some indifference to the earnings characteristics of jobs selected may all be evidence of this tendency.

There are reasons to doubt, however, the predictive powers of the classical viewpoint. The income level "guaranteed" supported families is poverty level income at best and half of that level for families on the least generous plan. Even families with relatively high earnings (in this low-income sample) will be close to the poverty line after receiving support payments. Thus the attractiveness of substituting leisure for work effort is problematic. It is more likely that most low-earnings families will maximize their monetary income by treating the transfers as subsidies to their current earnings.

Indeed, the earnings of some supported families may actually increase as a consequence of the increased flexibility in work scheduling afforded by an income maintenance program. For example, workers may reduce their work activity temporarily while making human capital investments outside of their firms, increasing their future earnings potentials. However, the fairly advanced life cycle location of most family heads in the experiment make it unlikely that many will return to institutionalized skill training. More likely, earnings improvements may result from purposive job and/or employer mobility facilitated by the transfer payments. As earnings subsidies, transfers may enable and encourage workers to retain their present positions until seniority advantages are realized or until particularly good job opportunities develop with a different employer.

In addition, income maintenance may reduce opportunity costs, allowing some unemployed workers to engage in longer and more productive job searches than they could otherwise afford. Thus a finding of longer unemployment

periods among supported heads may indicate either leisure substitution or more more thorough job searches. Support payments may also aid purposive job changes by enabling workers to accept positions which have initially low wages but good prospects for relatively high future earnings. Reports of lower earnings after a job change may be interpreted as evidence for a disincentive effect or they may reflect the strategy outlined here. It is therefore desirable to assess the effect of income maintenance payments on future, as well as current, earnings levels.

In this paper evidence of possible job mobility strategies will be examined within a broader study of the effect of the Rural Income Maintenance Experiment on job change behavior. Such behavior is here conceptualized in terms of three contingent issues: job departure rates, durations of unemployment, and job selection patterns.

This study asks first about the effect, if any, of income support payments on a wage-earner's propensity to change employers. It also seeks to determine if workers with particular individual characteristics or with particular kinds of jobs demonstrate experimental effects in the form of heightened or depressed rates of job departures. Second, the impact of income maintenance payments on the total length of subjects' unemployment periods is explored. Again, a subsidiary issue is which supported subjects were unemployed for notably long or short intervals. Third, changes in job characteristics under employment transitions are examined to determine whether supported subjects who change employers tended to improve their work situations or experienced some deterioration, relative to control subjects. The earnings potentials of new positions may show the kinds of job mobility strategy above. Further, individuals may select jobs on the basis of other aspects of employment. Therefore occupational status and expected job satisfaction are considered as possible job selection criteria by our subjects.

3. THE SAMPLE: INDIVIDUAL AND JOB ATTRIBUTES

The Sample and Demographic and Income Variables. Since this paper is concerned with job change behavior, observations are restricted to that subset of the Rural Income Maintenance Experiment's sample which consists of male heads of households whose earned income is derived primarily from wages.[1] The sample for the first issue investigated, the probability of leaving one's employer, is further restricted to those 241 subjects who were employed at the pre-enrollment interview. The issue of unemployment duration is investigated with the 165 subjects who were employed at the pre-enrollment interview and who subsequently left that employer. The third topic, job selection, is analyzed using the 133 subjects who were employed at both the pre-enrollment interview and the eighth quarterly and who changed employers one or more times.

Several common background variables may be expected to affect job change behavior: household head's age and education and family size. Although separate analyses for each geographic region and race represented in the sample would be desirable, the sample was judged to be too small (N approximately 240) to permit this procedure. Thus dichotomous variables for North Carolina whites (N CAR WHITE) and North Carolina blacks (N CAR BLACK) are used to specify these subsamples.

The head's wage income in dollars for the prevous year is specified by WAGE INC. Some sample heads have nonwage income sources and many sample families receive income from secondary earners. Thus several variables are used to specify the income sources of families, based on

pre-enrollment patterns. Two dichotomous variables describe heads' nonwage income: one, FARM INC DUM, indicates a nonzero (positive or negative) income from farming in the year preceeding the pre-enrollment interview and the other, NONWAGE DUM, indicates nonwage income from sources other than farming (rent, transfers, etc.). Since over half of the sample families reported income earned by other family members, it is felt that a dichotomous variable does not adequately describe the possible effects of this income source. However, the slope for positive values of this income source will be distorted by the dependent variable mean for subjects without secondary earners, unless the intercept can be adjusted appropriately. This is done by using both a dichotomous variable indicating secondary earners, SEC EARN DUM, and a variable specifying the earnings of those secondary workers, SEC EARN $.

Job Characteristics. In addition to personal attributes of individuals in the experiment, characteristics of jobs themselves may be expected to affect job change behavior. For example, it was suggested earlier that some workers may select jobs on the basis of future earnings prospects, rather than for the jobs' initial income levels. It is then necessary to consider the typical and expected earnings of a position when evaluating job selections. Further, jobs which are particularly attractive or distasteful on nonmonetary grounds may retain, attract, or repel workers at rates not predictable by earnings data alone.

There are obvious difficulties in using the subjects themselves as informants about "typical" income or satisfaction attributes of jobs, however. Such measures of job attributes could not be used to explain subjects' job change behavior since then "typical" evaluations of positions would be confounded with the subjects' own motivations for staying with, selecting, or leaving jobs. Since the effects of the experimental treatment may vary by intrinsic characteristics of jobs, it is necessary to use estimates of job characteristics which do not directly reflect subjects' own reasons for job departure or selection.

Therefore each job (defined by a three-digit census occupation code and a three-digit industry code) was characterized by the attributes of incumbents and by their attitudes toward key aspects of the work situation. These job profiles were constructed from two other data sets. The 1970 Census 1/1000 sample was used to estimate expected earnings figures. These were calculated separately[2] for nonmetropolitan areas in the two geographic regions included in the experiment so that regional and city-size earnings differentials among jobs would not confound the results. The expected earnings variables thus derived are average earnings (AV EARN) and the percentage of jobholders earning more than $5000 and $7000 annually (PCT GT $5000 and PCT GT $7000). In addition, two variables were obtained which relate to the status or attractiveness of jobs:

the average educational attainment of incumbents (AV EDUC) and the percentage black in a position (PCT BLACK).[3]

Two measures of job satisfaction and a third measure of occupational status (Duncan status score) were obtained from the 1966 National Longitudinal Survey of Work Experience for males age 45-59.[4] Measures of satisfaction with job content and financial return were constructed by averaging the reports of individuals holding the same job. The averaging procedure is described in Appendix A.

Measures of the Experimental Effect. Two formulations of the experimental parameters are employed. The primary forumulation is a set of three variables. One of them, TREATDUM, denotes the experimental group. When used alone it specifies effects attributable to being an experimental. When used with the other two, it contrasts the control and experimental subjects at the guarantee level of 75 percent of the poverty line and tax rate of 50 percent. The second variable in the primary formulation specifies the guarantee level as a deviation from the middle level (GARDEV, equal to -25, 0, or 25 corresponding to guarantees of 50, 75, or 100 percent) and its coefficient describes the slope with respect to change in guarantee level. The third variable's coefficient describes the slope with respect to a change in the tax rate applied to earned income and is similarly specified as a deviation from the middle tax rate (TAXDEV, equal to -20, 0, or 20 corresponding to tax rates of 30, 50 or 70 percent).

While this formulation has the advantage of relating experimental responses directly to the treatment parameters, it is possible that supported families are not responding directly to these parameters. Many subjects may have little awareness of their plan parameters and therefore may not accurately estimate the consequences to support payments of changes in their work effort. This is likely to be true for those families who had stable incomes over much of the two-year period under consideration; they would have had little experience with the payments adjustment mechanism. Further, the payment calculation was a complicated process, with lags and adjustments obscuring the relation between earnings and support payments. Finally, some experimentals may have had incomes above the breakeven level and hence not have received any support payments. For these reasons, I will consider the possibility that decisions were made by supported families on the basis of their initial support levels, rather than in terms of the payments consequent to a change in work behavior. Therefore, an alternative formulation of the experimental parameters is used which specifies the annual dollar amount of support a family would receive, based on its size, treatment plan, and family income reported at pre-enrollment. This formulation is termed "BENEFIT 1" and is specified by

$$\text{BENEFIT 1 \$} = G_s - t\,E_f \qquad (1)$$

where G_s is the dollar guarantee for a family of size s, t equals the tax rate applied to the family, and E_f denotes family earnings in the year preceeding pre-enrollment (less transfers replaced by support payments). Because all of the control subjects and some of the experimentals have zero values for BENEFIT 1 \$, a dichotomous term is introduced to adjust the intercept. BENEFIT 1 DUM is coded one when BENEFIT 1 \$ is greater than zero.

Characteristics of the Sample at Pre-enrollment. Mean values of individual and job characteristics for the total sample and region/ethnic subsamples are presented in Table 1. The first portion of the table presents sample means for individual attributes which will be used in subsequent analyses. We see that Iowa heads have considerably higher mean wage earnings and are the most likely to report nonwage income and farm income. Few North Carolina whites have nonwage or farm income. The North Carolina black sample families are rather more likely to have income earned by other family members. Although black male heads have lower mean wage earnings than white North Carolina heads, their higher rates of nonwage and farm income and of earnings by other family members produced a slightly higher mean total family income as compared to the white sample families in North Carolina.

The entries for the census and Parnes variables report mean expected characteristics for the jobs held by male family heads at pre-enrollment. Differences on census variables between the Iowa and North Carolina subjects can largely be attributed to regional differences since separate census subsamples were used to characterize positions. Thus the mean expected earnings for Iowa heads is $7252, while the means for North Carolina heads are considerably lower- $4956 for whites and $4711 for blacks. Characteristics of jobs held by North Carolina whites and blacks may be directly compared since they are computed from the same census data. Even in this low-income sample, blacks have somewhat lower mean expected earnings and are in positions with lower proportions of incumbents earning more than $5000 (40.7 percent vs. 44.5 percent). Not surprisingly, positions held by North Carolina blacks

Table 1

Characteristics of the Sample at Pre-enrollment[a]
(Mean or Percentage)

Subject Characteristics	Total Sample	Iowa	N. Carolina Whites	N. Carolina Blacks
Family income	$3962 ($1551)	$4933 ($1500)	$3561 ($1496)	$3726 ($1421)
Head's wage income (WAGE INC)	$3444 ($1501)	$4594 ($1630)	$3231 ($1386)	$3022 ($1208)
Heads with nonwage income[b] (NONWAGE DUM)	7.0%	10.7%	1.5%	8.3%
Heads with farm income (FARM INC DUM)	7.9%	12.5%	3.1%	8.3%
Secondary earners' income (SEC EARN $)	$410 ($709)	$104 ($219)	$296 ($601)	$614 ($839)
Families with secondary earners (SEC EARN DUM)	51.9%	30.4%	44.6%	65.8%
Head's age (AGE)	38.6 (10.7)	34.3 (10.1)	39.7 (10.5)	40.1 (10.7)
Head's education (years) (EDUC)	8.2 (3.3)	11.0 (2.1)	7.1 (2.8)	7.6 (3.3)
Family size (SIZE)	5.0 (2.5)	5.4 (2.4)	4.4 (2.0)	5.1 (2.7)
Experimentals	40.7%	42.8%	43.1%	38.3%
(Number of subjects)	(241)	(56)	(65)	(120)
Census variables: Expected values for head's occ/ind[c]				
Average earnings (AV EARN)	$5373 ($1549)	$7252 ($1373)	$4956 ($960)	$4711 ($1118)

Table 1 (cont.)

Subject Characteristics	Total Sample	Iowa	N. Carolina Whites	N. Carolina Blacks
Percentage in jobs with earrings > $5000 (PCT GT $5000)	49.8 (21.9)	75.3 (16.2)	44.5 (16.0)	40.7 (17.3)
Percentage in jobs with earnings > $7000 (PCT GT $7000)	25.8 (20.0)	51.4 (16.2)	18.5 (10.4)	17.6 (14.9)
Percentage black in occ/ind (PCT BLACK)	24.3 (20.4)	0.2 (0.4)	27.5 (14.3)	34.0 (18.7)
Average education (years) (AV EDUC)	8.8 (1.6)	10.7 (1.0)	8.4 (1.1)	8.1 (1.2)
(Number of subjects)[d]	(234)	(55)	(62)	(117)
Parnes variables: Expected values for heads occ/ind[e]				
Duncan status score	17.7 (10.8)	23.6 (13.5)	17.2 (7.6)	15.0 (9.7)
Satisfaction[f] with job content	220 (100)	262 (122)	235 (91)	191 (83)
Financial return	124 (45)	122 (49)	124 (50)	124 (40)
(Number of subjects)[d]	(225)	(55)	(61)	(109)

[a] The sample is male family heads who were primarily wage earners or business operators and were employed at pre-enrollment. Standard deviations given in parentheses. Income sources and amounts refer to previous year.

[b] Dummy variable; does not include farm income.

[c] Values assigned to respondents in this sample are derived from census individuals who have the same occupation and industry codes. Where an insufficient census sample was found, the census value for the occupation alone was used.

[d] Excludes respondents in jobs for which insufficient data was available to estimate job characteristics.

[e] Values assigned to respondents were derived from Parnes individuals with the same occupation and industry codes, as explained in note c.

[f] Each job aspect was constructed from several questions. The scores measure the relative frequency with which an aspect was selected by incumbents in the job. See Appendix A for details.

have a higher mean proportion of black incumbents than do positions held by North Carolina whites (34.0 percent vs. 27.5 percent).

The Parnes variables are derived from a national sample and consequently their mean values across all three region/ethnic subsamples are directly comparable. Iowa heads were employed at pre-enrollment in somewhat higher status positions (mean Duncan status score of 23.6, compared to 17.2 for North Carolina whites and 15.0 for blacks), but incumbents in those positions report about the same average satisfaction with financial return as incumbents in jobs held by North Carolina subjects. With regards to satisfaction with job content, however, jobs held by Iowans are rated highest (262), followed by the jobs of North Carolina whites (235) and blacks (191).

Additional detail on the distribution of job characteristics among wage earning heads in the Rural Income Maintainence Experiment sample is provided by the regression results reported in Table 2. Here individual attributes are related to the kinds of positions in which persons are employed. Job characteristic scores for the jobs held at pre-enrollment were used as dependent variables, the regressors being other characteristics of the individuals: race and region, education, age, and family size. To correct for heteroscedasticity in the error term, resulting from various job characteristic means having been computed from different numbers of persons, each observation was weighted by the square root of the number of individuals in that occupation/industry in the Parnes or census sample, the constant term was suppressed, and the square root weight introduced as an independent variable, with its coefficient serving as the constant. This transformation ensures statistically

Table 2

Regressions of Job Characteristics on Individual Attributes, for the Negative Income Tax Sample[a]

Dependent Variable[b]	Constant	N. Car. White	N. Car. Black	Educ. $x10^{-2}$	Age $x10^{-3}$	Size $x10^{-1}$	R^2
Census Variables:							
Average earnings ($)	6405.* (12.17)	-2110.* (-9.63)	-2453.* (-12.91)	3527. (1.26)	-1218. (-0.15)	1006.* (3.57)	.484
Percentage in job with earnings > $3000	.6430* (8.48)	-.2874* (-9.10)	-.3401* (-12.42)	.4918 (1.22)	-.1704 (-0.15)	.1321* (3.26)	.442
Percentage in job with earnings > $7000	.4384* (7.55)	-.3127* (-12.93)	-.3425* (-16.32)	.3028 (0.98)	-.2152 (-0.25)	.0910* (2.93)	.516
Percentage black in Occ/Ind[c]	.4011* (5.47)	----	.0789* (3.32)	-.6040 (-1.45)	-.3083 (-0.41)	-.1130* (-2.55)	.041
Average education	9.292* (20.09)	-1.924* (-9.99)	-2.112* (-12.64)	9.334* (3.81)	1.408 (0.20)	.5476* (2.21)	.504
Parnes variables:							
Duncan status score	9.784** (1.89)	-2.338 (-1.05)	-3.965* (-2.14)	42.00 (1.62)	41.30 (0.54)	7.731* (3.04)	.159
Satisfaction with job content	166.8* (4.28)	-13.57 (-0.81)	-40.95* (-2.94)	307.9 (1.58)	407.7 (0.71)	8.525 (0.44)	.097
Financial return	131.2* (10.23)	1.921 (0.27)	.7108 (0.16)	-37.80 (-0.57)	-76.62 (-0.40)	11.48** (1.82)	.026

* Significant at $p<.10$

** Significant at $p<.05$

[a] Selected regressions are presented to depict the main relationships between job characteristics and attributes of participants in the experiment. Entries are unstandardized regression coefficients; t-values are in parentheses.

[b] Since the job characteristic values are means computed from different numbers of persons, it was necessary to correct for heteroskedasticity with the following transformation: Each observation was weighted by $\sqrt{n_i}$, where n_i = the number of persons (in the Census or Parnes file) from which the ith occupation/industry mean was computed; the term $\sqrt{n_i}$ was introduced as a regressor, replacing the constant term which was suppressed. The R^2 values obtained after this transformation are no longer appropriate; the reported values for the R^2 are taken from untransformed equations.

[c] The maximum percentage black in jobs held by Iowa sample family heads is 1 percent, since the census-based job characteristics were computed for each region separately and the Iowa region has few blacks in non-metropolitan areas. Therefore, analysis using this variable was restricted to the North Carolina subjects.

efficient estimates of the regression coefficients (Kmenta, 1971: 249-267).

The first three equations in Table 2 relate individual characteristics to measures of expected earnings of pre-enrollment positions. They show that, with head's age, education, and family size controlled, both blacks and whites in North Carolina have substantially lower expected earnings than do Iowans, with blacks slightly more disadvantaged than whites. With respect to measures of occupational status, we again find North Carolina heads in significantly lower status positions than the Iowans. Jobs held by North Carolina blacks had significantly higher mean percentages of black incumbents than those held by North Carolina whites.[5] For one status measure, the Duncan status score, North Carolina whites show no significant difference from Iowans. While all of the expected earnings variables and two of the status indicators were calculated from different census samples (based on region), the Duncan status score has been shown to be invariant with respect to many factors, including region. Thus most of the differences in status scores and expected earnings between the Iowa and North Carolina samples are attributable to the different characteristics of the two labor markets, rather than to differences in the kinds of jobs held by North Carolina and Iowa wage-earners. However, the lower Duncan occupational status scores of North Carolina blacks is indicative of the relegation of blacks to less desirable positions, evident even among this low-income sample. The same pattern is seen for one of the Parnes job-satisfaction variables: with respect to satisfaction with job content, North Carolina blacks are in jobs whose incumbents report significantly less satisfaction, as compared to the jobs

held by Iowans and North Carolina whites. Finally, aside from these regional and ethnic differences, the equations in Table 2 indicate that expected occupational earnings and status increase with family size (significant in all six equations) and that, surprisingly, the age and education of the sample workers are generally not related to characteristics of their jobs.[6]

As a whole, these results are consistent with our expectations about regional and racial differences (thereby serving to validate our job characteristic measures), even in a sample selected for low incomes. It should be noted that, except for the Duncan status score, the job characteristic scores do not measure the sample family head's own values on the dependent variables. What is reported, therefore, are patterns in the distribution of types of work situations in this sample. The observed differentials entirely reflect the process by which jobs of varying desirability are allocated--they are not attributable to any extent to discrimination among persons in the same occupation.

4. THE EFFECT OF NEGATIVE INCOME TAX PAYMENTS ON JOB DEPARTURE

The first issue concerns the effect, if any, of support payments on the amount of job turnover or the pattern of job departures. Subjects might respond to the provision of income supplements by reducing work effort and leaving their employer. Further, this job departure response to the experimental treatment may vary with individual attributes and characteristics of the work situation. For example, there may be a tendency for only less satisfying positions to be left with greater frequency. Consequently, the interactions between the treatment parameters and subject and job characteristics are examined.

The dependent variable, JOBCHG, is a dichotomous term which specifiies whether or not a person changed employers during the first two years of the experiment. It was coded one if, at the eighth quarterly, the subject was no longer employed by the company he worked for at pre-enrollment; it was coded zero if he did not change employer.[7] Unemployment at the eighth quarterly was treated as a job change. In order that job characteristics could be related to departure rates, the analysis was restricted to male heads who were employed at pre-enrollment and had valid occupation/industry codes.

The initial model specifying determinants of job departure is

JOBCHG = f (state/race, age, education, family size, wage earnings, non-wage earnings, farm income, secondary earners' income, EXP). (2)

The variables are as described earlier. The term state/race denotes two dummy variables for North Carolina whites and blacks. Income variables are based on earnings in the year preceeding pre-enrollment, head's wage income and secondary earner's income are in dollars, and three dummy variables indicate the presence of nonwage income, farm income, and secondary earnings. Education is measured by head's years of schooling. These controls were introduced because they are likely determinants of job departure rates and because differences in the pattern of attrition between experimental and control families may have produced systematic differences between the groups on these variables.

The EXP term denotes the treatment parameters: either the TREATDUM variable alone, the set of three variables specifying the exact treatment plan, or the two variable BENEFIT 1 formulation. The BENEFIT 1 variables, based on family income in the year preceeding pre-enrollment, measure the impact of nonzero support payments of

approximately the annual amount congruent with a subject's pre-enrollment income on prospects for making a job departure in the succeeding two years.

Additive Models. Table 3 reports the regresssions of individual characteristics on job turnover. The results of the additive models can be succinctly stated. Wage earnings are strongly negatively related to job departures. Heads of families with secondary earners are also much less likely to change employers. None of the formulations of the treatment plans evidence significant additive effects on job turnover.

Interaction Effects. While the treatment parameters show no additive effect on job departure rates, there is reason to expect the existence of interactions with subject attributes and job characteristics. For example, employment in a low paying position coupled with the provision of support payments may make job departures more likely than the additive effects alone of these variables would indicate. Similarly, being employed in an unsatisfying job and receiving experimental transfers might cause subjects to leave their employer at a higher rate than that described by the separate contributions of the two factors.

The interaction model is specified by

JOBCHG = f (subject variables, EXP, job characteristic, EXPxV) (3)

where the first two terms are as in the additive model, "job characteristic" denotes one of the census or Parnes variables, and the last term representes the multiplicative interaction between the treatment parameters and a subject or job characteristic (V).

Before discussing the interaction models, a brief summary of the additive effects of the job characteristics on job departure rates is

Table 3

Regressions of JOB CHG[a] on Subject Characteristics
Additive Effects Models

Independent Variable[b]	(1)	(2)	(3)
Constant	1.074*	1.061*	1.072*
	(4.55)	(4.46)	(4.50)
N Car White ($x10^{-2}$)	5.083	4.689	5.610
	(0.53)	(0.48)	(0.58)
N Car Black ($x10^{-2}$)	5.719	5.687	6.065
	(0.64)	(0.64)	(0.68)
Age ($x10^{-3}$)	-3.844	-3.730	-3.788
	(-1.15)	(-1.11)	(-1.12)
Education ($x10^{-3}$)	1.900	2.550	2.031
	(0.16)	(0.22)	(0.18)
Size ($x10^{-3}$)	-2.917	-1.136	-2.010
	(-0.20)	(-0.08)	(-0.13)
Wage Inc ($x10^{-3}$)	-5.756*	-5.859*	-5.770)*
	(-2.22)	(-2.21)	(-2.22)
Nonwage Dum ($x10^{-2}$)	-6.003	-5.364	-5.151
	(-0.50)	(-0.45)	(-0.43)
Farm Inc Dum ($x10^{-2}$)	1.824	.6880	2.836
	(0.16)	(0.06)	(0.25)
SEC EARN $ ($x10^{-6}$)	7.536	4.476	10.43
	(0.14)	(0.08)	(0.20)
SEC EARN DUM	-.2054*	-.2050*	-.2099*
	(-2.80)	(-2.78)	(-2.85)
TREATDUM ($x10^{-2}$)	6.066	5.435	
	(1.00)	(0.96)	
GARDEV ($x10^{-3}$)		-2.456	
		(-0.70)	
TAXDEV ($x10^{-3}$)		-2.284	
		(-0.53)	
BENEFIT 1 $ ($x10^{-3}$)			-3.109
			(-0.41)
BENEFIT 1 DUM ($x10^{-2}$)			8.367
			(0.72)
R^2	.052	.048	.046
Joint (F) test for experimental effects	F1, 229=1.01 p<.316	F3, 227=0.66 p<.580	F2, 228=0.33 p<.718

* Significant at p<.10

** Significant at p<.05

[a] JOBCHG is coded one if subject left his employer during the first two years of the experiment, zero otherwise. Its mean and standard deviation are 0.689 and 0.464 respectively.

[b] Entries are unstandardized regression coefficients; t-values are in parentheses. The dummy variable for Iowa was deleted. N=241.

in order. These effects are presented in Appendix B, since as additional control variables they affect the experiment response only indirectly. Only the coefficients for the job characteristics are presented, because these variables caused only minor changes in the coefficients of the other variables when introduced singly into the models in Table 3. Results for all specifications of the treatment plans were quite similar and only the TREATDUM model's coefficients are shown.

Three of eight job characteristics demonstrate effects on the probability of an employment departure. The higher the average education of workers in a job, the less likely are sample heads with such jobs to leave their employer. Jobs whose incumbents report high satisfaction with job content are also more likely to retain our subjects. Rather anomalously, subjects were more likely to leave jobs which had high satisfaction-with-financial-return values, but this effect is net of the negative effect of the subjects' own wage earnings on job departures.

For the purpose of evaluating the effect of the experimental treatment, the interactions between these terms and the experimental parameters are more interesting. These interactions address the issue of whether certain kinds of positions, in combination with support payments, are disproportionately left or retained. Table 4 shows regression equation parts for interactions and their constituent variables for all cases where there is a significant interaction ($p<.10$) between the experimental parameters and a subject or job characteristic.

There are six significant interaction effects out of a possible 51 (three treatment specifications x seventeen subject and job attributes).[8]

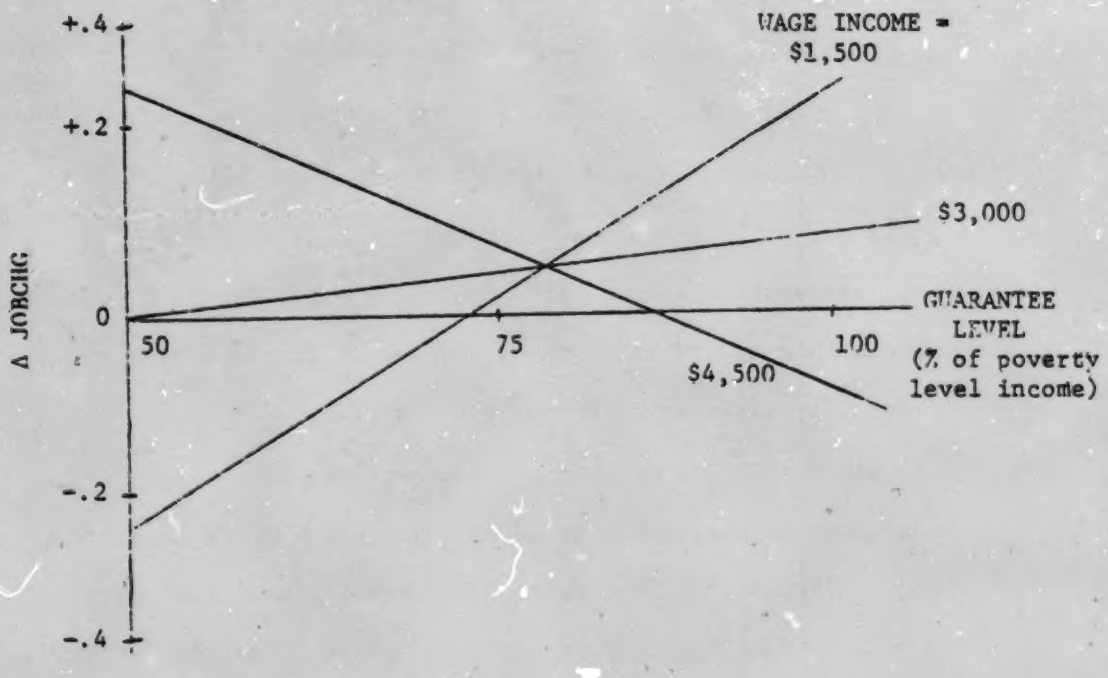
Five of these effects show a consistent pattern: Workers in relatively desirable positions become less likely to change employers when negative tax transfers are provided, while supported workers in less desirable positions are more likely to leave their original employer, relative to comparable control group workers.

These effects may be shown more clearly in Figures 1 and 2. Figure 1 shows the interaction effect of the guarantee level and subjects' wage earnings in the year preceeding the experiment. The contours are net of the negative additive effect of wage income on job turnover and are also net of control group change so that each curve can be compared with the horizontal axis, representing a comparable control group. Figure 2 compares the response by experimentals across a range of Duncan status scores to that of controls, again represented by the X-axis.

Figure 1 indicates that as plan generosity increases, supported heads whose wage earnings are relatively high become less likely to change employers, while supported workers whose wage earnings are low show increasingly higher turnover rates. This finding with respect to the guarantee level is duplicated by the BENEFIT 1 measure of support generosity (Table 4, row 6). Three other significant interaction effects involve nonmonetary aspects of job desirability. Again the pattern is found of more desirable positions retaining experimentals while less desirable positions are left more frequently by experimentals (Table 4, rows 3-5). For example, Figure 2 indicates that, while supported heads in low status positions are more likely to leave their pre-enrollment jobs than are controls in similar status positions, the relationship is reversed when experimentals and controls in higher status positions are compared. The same result was

Figure 1

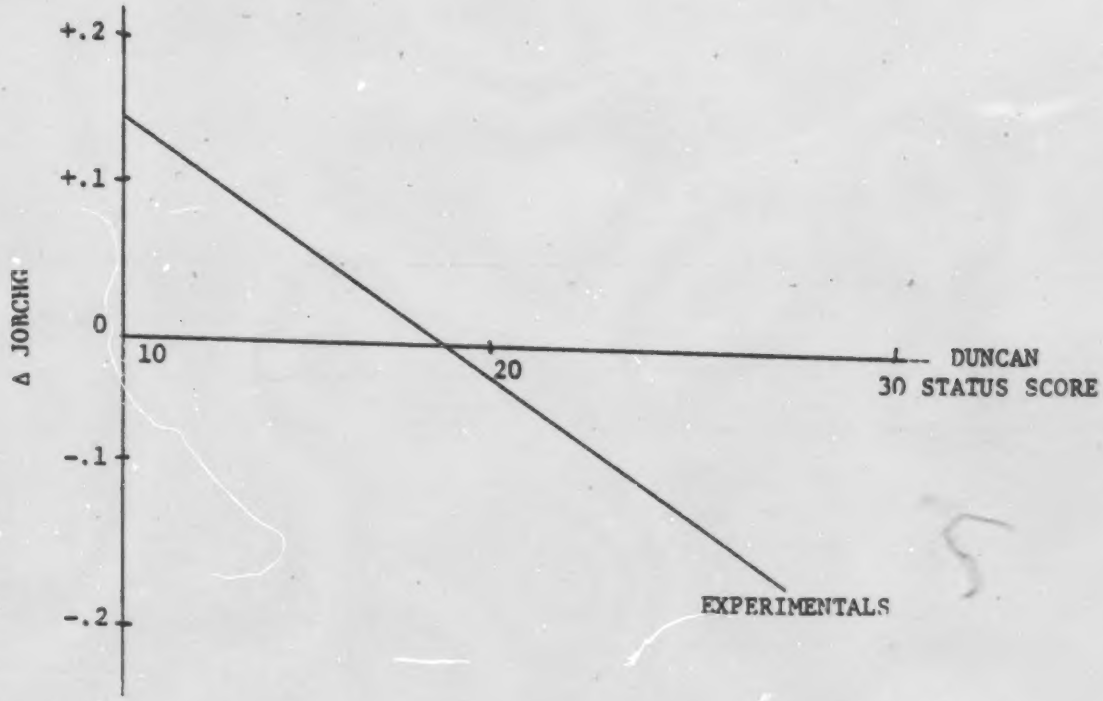
Interaction Effect of Head's Wage Income and Guarantee Level on Job Departures



Note: Mean and standard deviation for Wage Income are $3,444 and $1,501, respectively. The vertical scale indicates differences in the probability of a job departure during the first eight quarters. Each contour compares the response by an experimental group population with a comparable control group category (X-axis). The contours include the effects of TREATDUM and its interaction with Wage Income. Tax rate equals 50 percent (TAXDEV = 0).

Figure 2

Interaction Effect of Duncan Status Score and TREATDUM on Job Departures



Note: Mean and standard deviation for Duncan Status Score are 17.7 and 10.8. The vertical scale indicates differences in the probability of a job departure during the first eight quarters. The contour compares the response by the experimentals to the controls (X-axis).

obtained for the interaction between satisfaction with job content and TREATDUM (row 5).

The sixth significant interaction is between TREATDUM and a dummy variable indicating that the head had some nonwage and nonfarm income prior to the experiment. The effect found indicates that experimentals with nonwage income were much less likely to leave their employers than were both similar controls and experimentals without nonwage income. It is possible that subjects with both support payments and nonwage income have less financial pressure to improve their wage income through a job change. A similar explanation would account for the negative additive effects of head's wage income and the presence of secondary earners on the probability of a job change. However, only seven experimentals and ten controls (7 percent of the sample) reported any nonwage income at pre-enrollment. This small number of subjects makes the finding unreliable.

It is noteworthy that the interactions between the treatment specifications and the census variable percentage black evidence no significant effects on job departures of North Carolina subjects. While percentage black in a job was used here as a measure of job status, it obviously has other social and economic meanings. In this connection, two supplementary and substantively interesting questions may be asked about subjects' tendencies to change their employer: Are white or black North Carolina subjects more or less likely to leave jobs which have high proportions of black incumbents? Does the provision of support payments create or enhance such tendencies? These questions were addressed by the addition of several inter-

Table 4

Regressions Equation Parts[a] for Significant Interactions with Experimental Parameters-for JOBCHG

A. Independent Variables[b] for Plan Parameter Specification

Subject or Job Characteristic (V)	V (1)	TREATDUM $x10^{-2}$ (2)	CARDEV $x10^{-2}$ (3)	TAXDEV $x10^{-2}$ (4)	TREATDUM xV $x10^{-4}$ (5)	CARDEV xV $x10^{-6}$ (6)	TAXDEV xV $x10^{-6}$ (7)	Joint (F) test for interactions with experimental parameters
(1) Head's Wage Income ($x10^{-5}$)	-6.126* (-2.08)	-2.978 (-0.18)	2.529* (2.38)	1.310 (1.32)	.3085 (0.64)	-7.798* (-2.64)	-4.841 (-1.54)	F3,224=3.72 p<.012
(2) Head Nonwage Income? ($x10^{-1}$)	1.110 (0.73)	8.811 (1.42)			-4135.** (-1.77)			F1,228=3.14 p<.078
(3) Duncan Status Score ($x10^{-4}$)	-4.958 (-0.13)	27.64* (2.21)			-129.2* (-2.12)			F1,211=4.51 p<.035
(4) Duncan Status Score ($x10^{-4}$)	-7.544 (-0.20)	30.12* (2.17)	-1.227 (-1.52)	-.8531 (-0.97)	-147.3** (-1.94)	577.9 (1.38)	357.6 (0.70)	F3,207=2.52 p<.059
(5) Satisfaction with Job Content ($x10^{-}$)	-1.968 (-0.49)	30.87** (1.95)			-11.95** (-1.81)			F1,211=3.27 p<.072

B. Independent Variables[b] for BENEFIT 1 Specification

	V (8)	BENEFIT 1 DUMMY (9)	BENEFIT 1 $ $x10^{-4}$ (10)	BENEFIT 1 DUMMY xV $x10^{-4}$ (11)	BENEFIT 1 $ xV $x10^{-7}$ (12)	Joint (F) test for interactions with experimental parameters
(6) Head's Wage Income ($x10^{-5}$)	-5.053** (-1.76)	-.3178 (-1.10)	3.589** (1.83)	1.148 (1.56)	-1.121* (-2.17)	F2,226=2.41 p<.092

** Significant at p<.10

* Significant at p<.05

[a] The complete equations include the variables in Table 3, whose estimated effects were not significantly altered by the addition of interaction and job characteristic terms, except as noted in the text.

[b] Entries are unstandardized regression coefficients; t-values are in parentheses.

action terms to the job departure model, applied to the subset of subjects who were North Carolina residents.

The first question can be tentatively answered in the negative. The interactions between the ethnic dichotomous and census percentage black variables were found to have insignificant effects on job departures when added to the model of equation (2) singly and together. Thus the data provide no evidence that North Carolina whites or blacks leave jobs which have higher proportions of black incumbents at a greater or lesser rate than they leave positions with lower proportions of blacks.

The effect of support payments upon whites' and blacks' job change behavior over the range of proportion black in jobs was investigated by adding the following terms to the model specified by equation (2): (1) ethnic group dummy X percentage black, (2) ethnic group dummy X percentage black X experimental parameters, and (3) percentage black X experimental parameters. As noted above, the data show that neither the first nor third sets of interactions have significant F-statistics when introduced alone or together. The second set of terms, which directly address the question at hand, also fail to reach significance for any of the three parameter specifications. Thus there is no evidence for combined effects of subjects' treatment plan, ethnicity, and jobs' percentage black.

It should be kept in mind, however, that the census variable percentage black refers to the total proportion of blacks in an occupation/industry over a three-state area (see footnote 2); it does not indicate the proportion of blacks working at the same job for the same employer as our subjects, nor does it indicate the proportion of blacks at our

subjects' work places. These proportions are known to vary greatly over departments within firms, between employing units, and by locale, so that our evidence must be considered weak. Further, the direction of causality here may be the opposite of that assumed by our model: Dewey (1952, p. 285) suggests that the willingness of whites to work with blacks "varies inversely with group solidarity, which in turn depends in large measure upon the rate of labor turnover." For these reasons, the effect of support payments in conjunction with the percentage black in the work environment upon the job departure behavior of blacks or whites must be considered an unresolved issue.

The analyses in this section suggest that (1) there is no evidence of an additive experimental effect on the rate of job departure, and (2) there is some indication of an interaction between the provision of support payments and job desirability, such that job turnover is more likely among supported heads with less desirable jobs but less likely among experimentals in relatively more desirable positions, with these tendencies increased by increasing support generosity.

One plausible interpretation, tempered by the relative paucity of significant effects, is that workers with relatively good jobs view the income maintenance payments as constituting in effect a wage raise, increasing satisfaction with their present jobs. Subjects with less desirable jobs, however, are more able to leave those jobs the greater their support level. The question of whether these subjects subsequently are able to improve their potential earnings in new positions will be addressed later.

5. THE EFFECT OF SUPPORT PAYMENTS ON THE DURATION OF UNEMPLOYMENT

The second major issue addressed by this study concerns the possibility of an experimental effect on duration of unemployment among subjects who left their pre-enrollment employer. While an increase in unemployment might be expected as a consequence of a possible disincentive effect of support payments, such an increase could also indicate longer search periods for desirable jobs, reflecting enhanced work scheduling flexibility made possible by income maintenance. Subjects' unemployment duration response to the experimental treatments may also vary with characteristics of the subjects themselves. For example, subjects on generous plans who expect to obtain relatively low paying positions may opt for longer unemployment periods than ones who expect relatively well paying jobs. Such possibilities are explored by examining interactions between subject attributes and treatment parameters.

For this analysis, the total duration of unemployment is the number of weeks that subjects were unemployed during the first two years of the experiment. The analysis is restricted to those 165 subjects who left their pre-enrollment employer (regardless of reasons for departure) and were primarily wage earners. The independent variables are the same ones used in the previous section (see equation (2)), with one exception: the BENEFIT specification of the treatment parameters, a dollar estimate of experimental subjects' payment level, is calculated here on the assumption that the head of family is unemployed. This formulation is consistent with the objective of ascertaining the effect of support payments received by the families

of unemployed heads on the duration of their unemployment. The BENEFIT 2 $ specification of the experimental treatment is calculated by

$$\text{BENEFIT 2 \$} = G_s - t(I_f - I_h) \qquad (4)$$

where G_s is the dollar guarantee for a family of size s (the family's poverty level income times the proportion of that level guaranteed by the family's treatment plan), t is the tax rate of the plan, and $I_f - I_h$ is the family's total income in the year preceeding the experiment less the family head's wage, business and transfer income in that year. As before, the term BENEFIT 2 DUMMY is used to adjust the intercept. All experimental subjects had positive BENEFIT 2 $ values, so that in this case the BENEFIT 2 DUMMY variable had the same values as the dummy variable indicating experimentals, TREATDUM.

Additive Models. The coefficients for the additive models regressing subject characteristics and treatment specifications on subjects' weeks unemployed are reported in Table 5. Of the subjects' attributes, the strongest and most consistent effect is that heads' pre-enrollment wage earnings (measuring earnings potential) are negatively related to the number of weeks unemployed. The higher a worker's earnings, the shorter his total unemployment duration in the succeeding two years. Each $1000 in wage income reduces a worker's unemployment by about two weeks. This is likely due to workers with higher earnings experiencing both fewer and shorter episodes of unemployment, relative to lower earnings workers. Farm income is also negatively related to total unemployment duration--heads with farm income reported about six fewer weeks of unemployment over the two-year period. Family size evidenced another negative impact on unemployment with a border-

Table 5

Regressions of Unemployment Duration (Weeks)[A] on Subject Characteristics
Additive Effects Models

Independent Variable[B]	(1)	(2)	(3)
Constant	20.70* (3.24)	20.44* (3.17)	18.85* (2.93)
N CAR WHITE	-2.226 (-0.81)	-2.079 (-0.75)	-2.384 (-0.87)
N CAR BLACK	-.4574 (-0.18)	-.4243 (-0.16)	-.7254 (-0.28)
AGE ($x10^{-2}$)	5.858 (0.76)	7.010 (0.78)	7.388 (0.83)
EDUCATION	-.3482 (-1.09)	-.3460 (-1.08)	-.3324 (-1.05)
SIZE	-.6860* (-1.63)	-.7172** (-1.69)	-.3276 (-0.71)
WAGE INC ($x10^{-3}$)	-2.133* (-3.02)	-2.063* (-2.82)	-2.140* (-3.05)
NONWAGE DUM	-3.942 (-1.14)	-3.831 (-1.10)	-3.678 (-1.07)
FARM INC DUM	-6.824* (-2.10)	-6.384* (-1.97)	-6.869* (-2.12)
SEC EARN $ ($x10^{-3}$)	-1.347 (-0.83)	-1.241 (-0.75)	-1.641 (-1.01)
SEC EARN DUM	.3107 (0.23)	.4700 (0.21)	.7048 (0.32)
TREATDUM	2.907** (1.73)	3.119** (1.68)	
GARDEV ($x10^{-3}$)		-3.931 (-0.04)	
TAXDEV ($x10^{-2}$)		4.365 (0.40)	
BENEFIT 2 DUMMY			9.891* (2.26)
BENEFIT 2 $ ($x10^{-3}$)			-2.629** (-1.72)
R^2	.131	.141	.162
Joint (F) test for experimental effects	F1,133=3.00 p<.086	F3,131=1.04 p<.377	F2,132=3.01 p<.052

** Significant at p< .10

* Significant at p<.05

[A] Unemployment duration is measured by total weeks unemployed during the first two years of the experiment. Its mean and standard deviation are 9.44 and 11.43.

[B] Entries are unstandardized regression coefficients: t-values are in parentheses. The dummy variable for Iowa was deleted. N = 165.

line level of significance. Thus heads of larger families tended to show less unemployment than heads of smaller families.

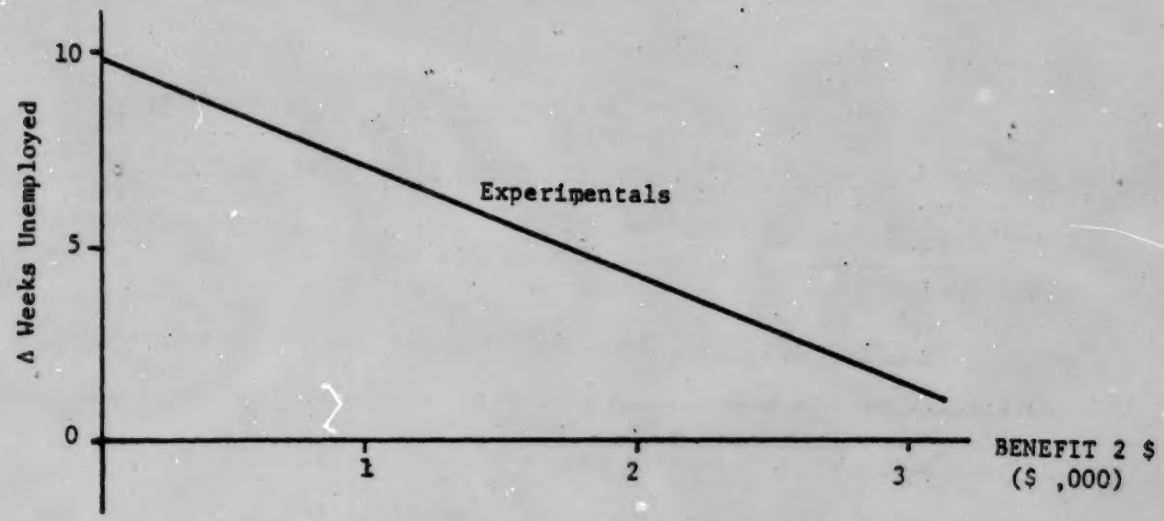
The experimental subjects have a significantly longer total duration of unemployment than the control subjects. The positive effect of the dichotomous variable, which denotes experimentals, indicates that they were unemployed about three more weeks than were the controls. The BENEFIT 2 specification also showed significant effects indicating that, contrary to expectations, the difference between experimentals and controls in total weeks unemployed decreased as plan generosity increased (see Figure 3). However, the guarantee and tax rates showed no effect on unemployment duration.

Interaction Effects. Subjects' responses to the experimental treatments may be dependent in part upon particular subject characteristics in ways not fully accounted for by the additive effects of the treatment and subject attributes alone. One possibility has been mentioned, namely that subjects who may expect to obtain only low paying jobs and who are on generous treatment plans may remain unemployed longer than the additive terms for wage income (indicating earnings potential) and treatment parameters would indicate. Another possibility is that subjects who receive higher levels of support and have other income sources (earnings by other family members, for example) may similarly opt for longer unemployment periods.

To explore these possibilities, multiplicative interaction terms between the experimental parameters and subject characteristics were added to the unemployment model. Table 6 reports the regression equation parts for all cases of significant interactions. Out of a possible 27 interactions (three treatment specifications x nine subject

Figure 3

Combined Additive Effects of BENEFIT 2 Dummy and Dollars on Unemployment Duration



Note: The vertical scale indicates weeks of unemployment of the experimental group as compared to comparable control subjects (X-axis). Mean and standard deviation for positive values of BENEFIT 2 $ are $2640 and $963 respectively.

Table 6

Regression Equation Parts[a] for Significant Interactions with Experimental Parameters--Unemployment Duration (Weeks)

A. Independent Variables[b] for Plan Parameter Specification

Subject Characteristic (V)	V (1)	TREATDUM (2)	GARDEV ($\times 10^{-1}$) (3)	TAXDEV ($\times 10^{-1}$) (4)	TREATDUM xV ($\times 10^{-2}$) (5)	GARDEV xV ($\times 10^{-3}$) (6)	TAXDEV xV ($\times 10^{-4}$) (7)	Joint (F) test for interactions with experimental parameters
Head's Wage Income ($\times 10^{-3}$)	-1.224 (-1.51)	11.12* (2.71)			-.2482* (-2.19)			F1,152=4.81 p<.030
Secondary Earners Dum	2.398 (0.85)	5.654* (2.28)	-2.036 (-1.14)	-.5848 (-0.45)	-858.0** (-1.79)	39340.** (1.50)	-716.7 (-0.24)	F8,143=1.97 p<.073
Secondary Earners $ ($\times 10^{-3}$)	-1.285 (-0.60)				.3880 (1.47)	-13.98 (-0.81)	4.838* (2.16)	
Head's Age	.1837** (1.66)	13.44* (2.16)			-27.93** (-1.76)			F1,152=3.09 p<.081
Head's Age	.1817** (1.66)	19.32* (2.85)	-11.38* (-2.65)	1.852 (0.47)	-40.80* (-2.37)	2648.* (2.72)	-36.53 (-0.34)	F5,148=3.50 p<.017
Head's Education	-.8020* (-2.28)	-9.340* (-2.01)			146.8* (2.81)			F1,152=7.91 p<.006
Heads' Education	-.8406* (-2.40)	-11.23* (-2.36)	7.102* (2.06)	-1.660 (-0.58)	180.4* (3.34)	-9244.* (-2.24)	273.6 (0.88)	F5,148=4.62 p<.004
Family Size ($\times 10^{-1}$)	-.3993 (-0.08)	10.47* (2.83)			-139.1* (-2.28)			F1,152=5.21 p<.024
North Carolina Whites	.7454 (0.23)	4.775* (2.41)			-647.2** (-1.75)			F1,152=3.06 p<.082

B. Independent Variable[b] for BENEFIT 2 Specification

Subject Characteristic (V)	V (8)	BENEFIT 2 DUMMY (9)	BENEFIT 2 $ ($\times 10^{-4}$) (10)	BENEFIT 2 DUMMY xV (11)	BENEFIT 2 $ xV ($\times 10^{-4}$) (12)	Joint (F) test for interaction with experimental parameters
Head's Education	-.8201* (-2.36)	-9.420 (-0.93)	-2.417 (-0.06)	2.606* (2.10)	-3.913 (-0.89)	F2,150=5.17 p<.007

**Significant at p<.10

*Significant at p<.05

[a]The complete equations are specified by the addition of the interaction terms to the models in Table 5. Only instances where the F-statistic was significant at the .10 level are reported.

[b]Entries are unstandardized regression coefficients; t-values are in parentheses. N = 165.

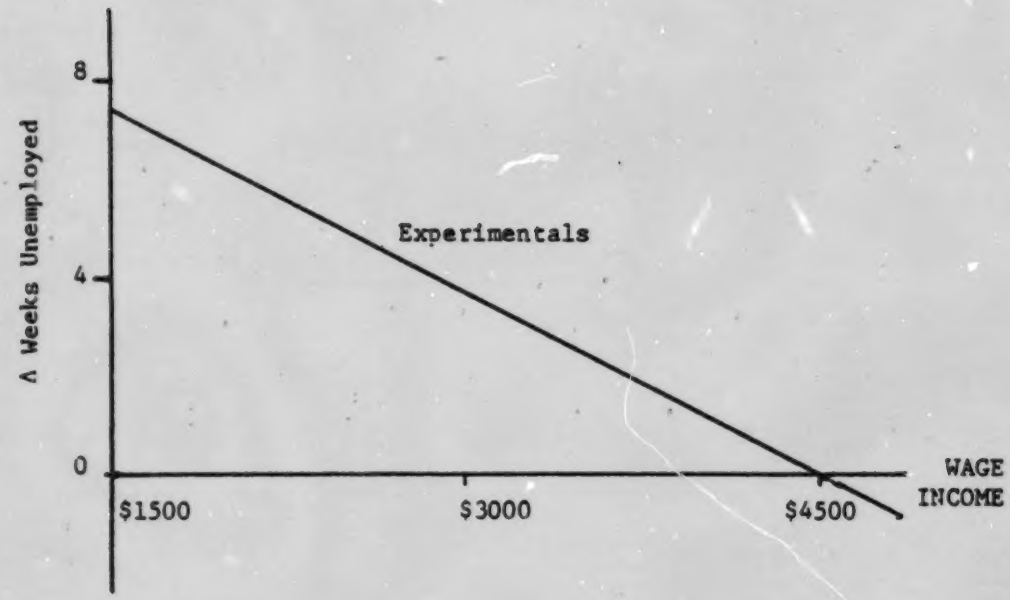
characteristics) nine are significant at the .10 level. These involve interactions between one or more of the treatment specifications and heads' pre-enrollment wage income, secondary earners' income, heads' age and educational attainment, family size, and regional/ethnic groups.

The interaction of TREATDUM with head's wage income is consistent with the expectation that experimentals with higher expected wage earnings would have shorter durations of unemployment. It is also consistent with the earlier finding that, as plan generosity increases, low wage income earners become more likely to leave their employer. As Figure 4 illustrates, experimentals who reported low wage earnings prior to the experiment evidence more weeks unemployed, relative to comparable control group subjects. This difference decreases over wage earnings levels from about seven weeks for heads with pre-enrollment wage incomes of $1500 to a negligible difference between experimentals and controls at an income level of about $4500.

The interactions involving income from secondary earners are more complicated. About 44 percent of the unemployment subsample had secondary earners in their families at pre-enrollment. The specification of this income variable has two components: a dummy term indicating the presence of secondary earners in the year prior to the experiment (SEC EARN DUM) and the dollar amount earned by secondary earners (SEC EARN $). The F-statistic for the six interactions involving each of the secondary earners variables and the three variable specification of the treatment was significant at the .10 level ($p<.073$) and in particular the terms SEC EARN DUM x TREATDUM and SEC EARN $ x TAXDEV were significant. Thus four groups in the sample must be considered: experimentals without income from secondary earners, experimentals with such income,

Figure 4

Interaction Effect of Head's Wage Income and TREATDUM on Unemployment Duration



Note: The vertical scale indicates weeks of unemployment of experimental subjects, compared to comparable control group subjects (X-axis). Mean and standard deviation for head's pre-enrollment wage income are $3296 and $1534.

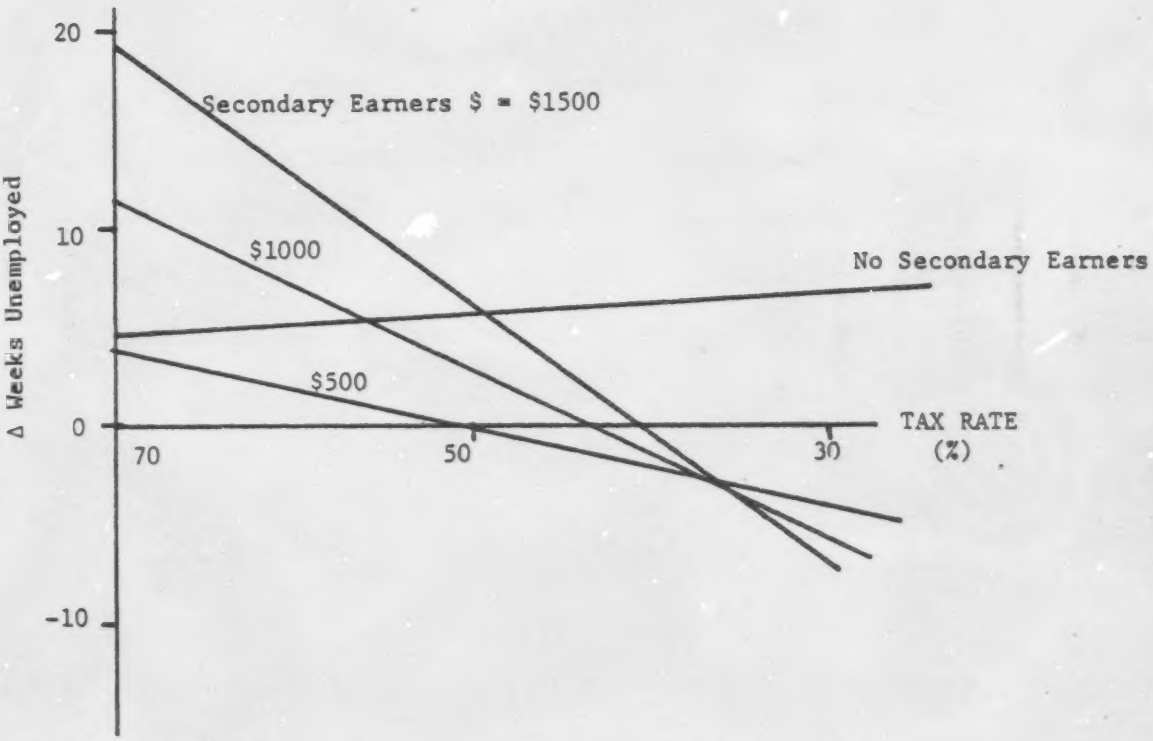
and comparable controls. Figure 5 shows the unemployment duration responses of these groups to tax rate variation. (Note that it shows tax rates on earned income decreasing along the X-axis, which corresponds to increasing support generosity.)

The tax rate may be expected to affect the duration of unemployment through its effects on (1) the (anticipated) support level after reemployment and (2) the support level during unemployment for families with secondary earners. When the family head is unemployed and the family has no other income sources, payments will be made at the maximum rate--the full guarantee level. Upon reemployment, payments are reduced by some proportion of earnings (the "tax rate"). Subjects who expect a large reduction in support, i.e., those with a higher tax rate, may then be expected to postpone reemployment as long as possible. This expectation is not supported by the data: The tax rate has no additive effect on unemployment duration for those experimentals who have no secondary earners in their families. They evidence a constantly higher level of unemployment duration across all tax rate levels, relative to controls.

For families with several workers, support payments during periods when the head is unemployed equal the full guarantee level less the families' tax rate applied to the earnings of other family members. Thus families with lower tax rates and smaller secondary earnings would receive larger transfers, possibly encouraging longer unemployment periods. However, they could also expect to gain more in total income from reemployment of the head, due to their lower tax rate. Conversely, families with high tax rates and larger secondary earnings

Figure 5

Interaction Effects of Secondary Earners (Dummy and Dollars) with TREATDUM and Tax Rate (TAXDEV) on Unemployment Duration



Note: The vertical scale indicates weeks of unemployment of experimental group subjects, compared with control subjects (X-axis). The horizontal scale shows the tax rate from least to most generous, moving from the origin. The mean and standard deviation for positive values of Secondary Earners $ are $822 and $785; 44.2 percent of all subjects had secondary earners in their families. The contours include the additive effects of TREATDUM and TAXDEV, their interactions with Other Family Income $, and the interaction of TREATDUM and Other Family Income Dummy. Guarantee level equals 75 percent (GARDEV = 0).

receive less in support payments during unemployment and hence less encouragement for heads to remain unemployed. However, such families can also anticipate sharp reductions in their support level with reemployment, when the heads' new earnings are taxed at a high rate. Indeed, families with high tax rates and secondary earners are the ones most likely to have incomes close to or above the breakeven level during periods when their heads are employed and these families may receive significant transfers only during periods when the head is unemployed. In sum, it is not clear what effect the interaction between tax rate and secondary earners should be expected to have on heads' unemployment duration, since subjects with the largest transfers during unemployment are also those who may anticipate the greatest net income gains with reemployment.

As Figure 5 illustrates, among heads whose families had other earners, the longest unemployment durations, relative to controls, were experienced by heads on high tax rate plans with relatively large secondary earnings. Experimentals with a high tax rate were unemployed longer than comparable controls across all levels of secondary earnings. As the tax rate decreases and plan generosity correspondingly increases, the difference in weeks unemployed decreases. Indeed, at low tax levels control subjects are unemployed more weeks than comparable experimentals and experimentals with higher earnings by other family members have the shortest total duration of unemployment.

These results suggest that the tendency for experimentals to have longer durations of unemployment is most pronounced among experimentals

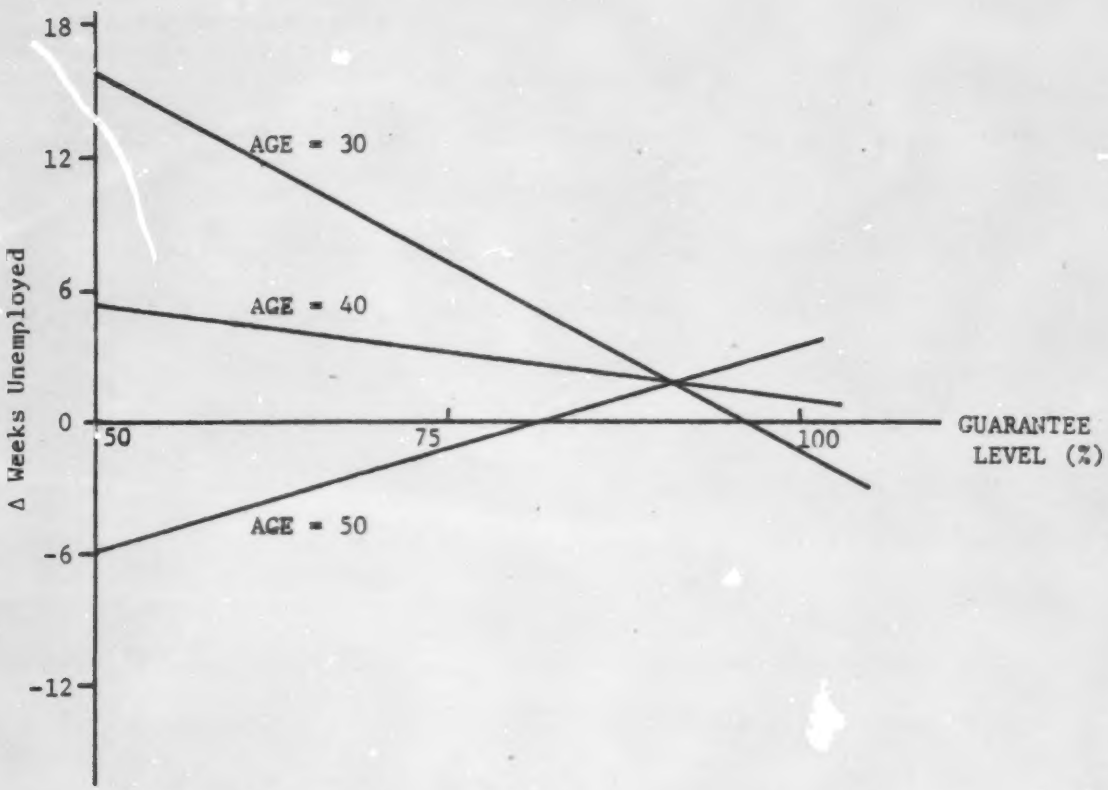
whose support level is sharply reduced when they return to work and whose families have other earners. For these subjects, the financial loss of unemployment is cushioned by both support payments and (probably) by incomes from secondary earners and the financial gain from reemployment is minimized by the high tax rate (at the 70 percent tax rate each dollar gained in earnings is offset by a seventy-cent reduction in support payments). In contrast, when support is decreased at the minimal tax rate upon reemployment, the duration of unemployment for experimentals with secondary earners is less than that of controls.

The age of subjects was found to affect their duration of unemployment in conjunction with some treatment parameters. First, while young experimentals are unemployed more weeks than young controls, the difference decreases with increasing age. Second, the guarantee level affects unemployment duration differently for different age groups (see Figure 6). Among younger subjects, the experimental-control difference in weeks unemployed decreases sharply as support generosity increases, until experimentals on a 100 percent guarantee plan were unemployed about the same length of time as were comparable controls. The opposite pattern is found for older subjects: Those on high guarantee plans were unemployed somewhat more than older controls, while older experimentals with the lowest guarantee level had fewer weeks of unemployment than similar controls. One possible interpretation will be offered below.

Subjects' educational attainment also interacts with these treatment parameters (see Figure 7). The unemployment duration of Experimentals increases with increasing years of schooling: Experimentals with relatively low educational levels (five years) are unemployed

Figure 6

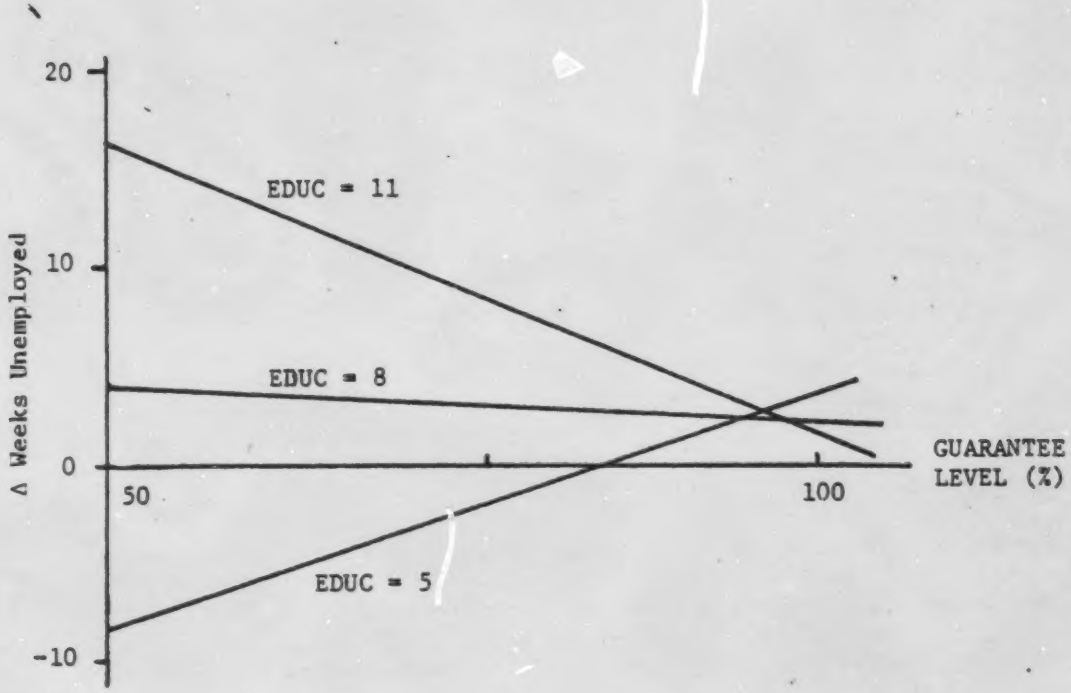
Interaction Effects of Head's Age with TREATDUM and Guarantee Level (GARDEV) on Unemployment Duration



Note: The vertical scale indicates weeks of unemployment of experimentals, as compared to comparable controls (X-axis). The contours include the additive effects of TREATDUM and GARDEV and their interactions with head's age. Tax rate equals 50 percent (TAXDEV = 0). Mean and standard deviation of age are 37.9 and 10.9 years.

Figure 7

Interaction Effects of Head's Education with TREATDUM and Guarantee Level (GARDEV) on Unemployment Duration



Note: The vertical scale indicates weeks of unemployment of experimentals, as compared to comparable controls (X-axis). The contours include the additive effects of TREATDUM and GARDEV and their interactions with education. Tax rate equals 75 percent (TAXDEV = 0). The mean and standard deviation of head's education are 8.3 and 3.3 years.

somewhat fewer weeks than similar controls, but more educated experimentals are unemployed more total weeks than are control subjects. As a function of guarantee level, the tendency for less educated experimentals to be unemployed less than controls occurs at low guarantee levels, with larger total unemployment indicated for low-education experimentals on generous treatment plans. Conversely, the pattern of more weeks unemployed for experimentals with relatively high educational attainment (i.e., 11 years) is most pronounced at low guarantee levels. Among these high-education subjects, the experimental-control difference in unemployment decreases sharply with increasing generosity. A tentative explanation for these patterns is given below.

Family size is found to interact with the dichotomous variable for experimentals, TREATDUM. The tendency for experimentals to have more weeks of unemployment than controls is greatest among heads of small families. Experimental and control heads of larger families (about 7 members or more) have about the same amount of unemployment. Apparently the experiment's support payments enable subjects with smaller family responsibilities to delay employment, for whatever reasons. However, the support level seems to be such that heads of larger families are not freed from the necessity of finding employment fairly quickly, even though support is scaled by family size.

The final interaction effect on unemployment duration involves TREATDUM and the dichotomous variable for North Carolina whites. It indicates that North Carolina white experimentals are unemployed about two weeks less than North Carolina white controls. However, for Iowans and North Carolina blacks, experimentals are unemployed about five weeks more than controls.

The impact of the experimental treatment of support payments on duration of unemployment may be summarized as follows: (1) There is an additive effect of the treatment such that experimentals are unemployed about three weeks more than controls over a two-year period and (2) this experimental effect varies in direction and degree with a number of attributes of subjects and their families and in some cases also with the generosity of treatment plans. In brief, these interaction effects are that, relative to similar control subjects, (1) experimental subjects with low wage earnings prior to the experiment are unemployed longer than those with higher pre-enrollment wage income, (2) experimentals who have high tax rates and income from secondary earners are unemployed longer but their total unemployment durations decrease with decreasing tax rates, (3) younger and better educated experimentals are unemployed longer but decrease their unemployment as plan generosity increases, while those older and less educated evidence the opposite pattern, (4) experimental subjects decrease their unemployment with increasing family size, and (5) North Carolina whites are unemployed fewer weeks but North Carolina blacks and Iowans are unemployed more.

In general, it appears that subjects who would increase their total income the most by returning to work were unemployed less than those who could expect relatively little net gain. For example, younger and better educated workers may be expected to obtain relatively good positions and only those on high guarantee plans would then continue to receive support payments after reemployment and thus enjoy a greater net gain in income. Older and less educated

subjects are disadvantaged in the labor market, may anticipate obtaining relatively poor jobs, and thus accept longer unemployment periods if their support level is sufficiently high. Experimentals with typically low wage incomes gain less from reemployment than those with higher wage earnings and they were unemployed more weeks. Similarly among subjects with secondary earners, experimentals with low tax rates would increase their total income more by returning to work than would those with higher tax rates, and they were also found to be unemployed less.

These interpretations must be seen as speculative; substantiation depends upon further investigations of this data and replication by other income maintenance studies. In particular, care must be exercised in interpreting these findings because no evidence has been brought to bear on the question of subjects' activities during unemployment periods. For example, it is plausible that support payments enable subjects to engage in longer job searches with greater subsequent payoffs.

6. THE EFFECT OF SUPPORT PAYMENTS ON JOB SELECTION

The final issue concerns the effect of negative tax transfers on subjects' selection of new positions. The analysis seeks to determine whether supported workers tend to acquire jobs with particular characteristics--is there a relation between the treatment parameters and key aspects of entered positions? For example, it was suggested earlier that support payments might enable workers to accept jobs with low initial earnings but good prospects

for increased future earnings. Alternatively, the experimental transfers may finance longer and more effective job search periods which result in higher earnings positions. Another possibility is that supported subjects may accept low earnings since the transfers constitute an earnings subsidy. While these suggestions focus on earnings characteristics of positions, subjects may also select jobs on the basis of status or job satisfaction considerations. Additionally, the possibility is considered that personal attributes of subjects will interact with treatment plans to affect subjects' job selection decisions.

This analysis deals with changes among jobs (occupation/industry combinations) having particular earnings, status, and satisfaction characteristics, rather than with subjects' own values for these aspects. The analysis is restricted to those subjects who changed employers between the pre-enrollment and eighth quarterly interview and who were employed at the time of both interviews. Table 7 shows mean job characteristic scores for this subsample for experimentals and controls at pre-enrollment (Q_0) and at the eights quarterly (Q_8).

It appears from Table 7 that experimentals who change employers obtain positions which have somewhat lower income measures (average earnings, percentages of incumbents earnings more than $5000 and $7000), while controls' eighth quarterly jobs have income values slightly higher than their pre-enrollment jobs. The same pattern is presented by the job status indices (percentage black,[9] average education, and Duncan status score): decreases in the scores for experimentals and improvements or no change for controls. The job satisfaction indices present a different picture: Both groups show gains in job content

Table 7

Changes in Mean Job Characteristic Values
Between Pre-enrollment and Eighth Quarterly

	Experimentals			Controls		
	Q_0	Q_8	Q_8-Q_0	Q_0	Q_8	Q_8-Q_0
Census Variables:						
Average Earnings ($)	5466.	5134.	-332.	5268.	5436.	168.
Percent with earnings>$5000	51.6	46.3	-5.3	47.6	48.6	1.0
Percent with earnings>$7000	25.9	22.1	-3.8	25.1	27.2	2.1
Percent Black[a]	28.3	36.5	8.2	31.7	29.1	-2.6
Average Education (years)	8.74	8.50	-0.24	8.56	8.53	-0.03
(Number of observations)		(55)			(78)	
Parnes Variables:						
Duncan status score	17.27	14.97	-2.3	17.64	19.01	1.37
Satisfaction with-						
Job content	210.6	222.1	11.5	207.7	227.4	19.7
Financial rewards	130.3	124.5	-5.8	127.5	122.5	-5.0
(Number of observations)		(49)			(69)	

[a]North Carolina subjects only -43 experimentals and 62 controls.

[b]Observations are male heads who either changed employers or occupations between Q_0 and Q_8.

satisfaction scores (controls somewhat more so than experimentals), and slight losses in financial return satisfaction.

Due to differential attrition and other factors, it is necessary to consider the experimental impact net of population differences between the groups. The eight job characteristics of participants at the eighth quarterly were regressed on the experimental parameters and the control variables, including the corresponding job characteristic score at pre-enrollment. The model is then specified by

$$V_8 = f \text{ (subject variables, } V_0, \text{ EXP)} \qquad (5)$$

where V_8 and V_0 are a job characteristic at the two quarterlies,[10] the subject variables are the same as those used in the previous analysis (the earnings variables refer to the pre-enrollment period and measure earnings potential), and EXP denotes the TREATDUM and TREATDUM - GARDEV - TAXDEV specifications of the experimental treatment. The BENEFIT formulation of the treatment was not used in this analysis because of certain ambiguities involving the correct specification for this situation.[11]

Additive Models. Table 8 presents the regressions for each of eight job characteristics. For the income characteristics (models 1-6: average earnings and percentages earning more than $5000 and $7000), note that North Carolina whites and blacks experience significant decreases in these indices, net of their pre-enrollment jobs' income measures' values and of the significantly positive effect of the subjects' own pre-enrollment wage earnings. The wage effect indicates that subjects who initially have good paying positions tend to move

Table 8

Job Selection: Regressions of Job Characteristics (Q_8) on Subject Attributes—Additve Effects Models[a]

	Dependent Variable[b]: Job Characteristic (Q_8)			
	Average Earnings ($)		Percent Earning>$5000	
Independent Variable	(1)	(2)	(3)	(4)
CONSTANT	6708.*	6732.*	.5674*	.5735*
	(6.75)	(6.71)	(4.27)	(4.18)
N CAR WHITE	-2114.*	-2130.*	-.2617*	-.2653*
	(-5.36)	(-5.32)	(-4.58)	(-4.58)
N CAR BLACK	-2452.*	-2447.*	-.3090*	-.3057*
	(-6.51)	(-6.36)	(-5.67)	(-5.52)
AGE ($x10^{-3}$)	-6641.	-6460.	.0444	.1039
	(-0.52)	(-0.51)	(0.02)	(0.06)
EDUCATION ($x10^{-2}$)	4702.	4594.	1.190**	1.160**
	(1.07)	(1.04)	(1.86)	(1.80)
SIZE ($x10^{-2}$)	4704.	5020.	.0181	.0533
	(0.88)	(0.91)	(0.02)	(0.07)
WAGE INC ($x10^{-4}$)	2234.*	2161.*	.3476*	.3409*
	(2.31)	(2.14)	(2.42)	(2.27)
NONWAGE DUM ($x10^{-1}$)	-4130.	-4333.	-.2572	-.2857
	(-0.90)	(-0.92)	(-0.38)	(-0.42)
FARM INC DUM ($x10^{-1}$)	1148.	772.8	.1104	.0388
	(0.30)	(0.19)	(0.20)	(0.07)
SEC EARN $ ($x10^{-4}$)	1519.	1384.	.4450	.4168
	(0.72)	(0.64)	(1.44)	(1.32)
SEC EARN DUM ($x10^{-2}$)	-120.8	-319.7	-2.531	-2.692
	(-0.01)	(-0.01)	(-0.62)	(-0.65)
Job Characteristic (Q_0)	-.1076	-.1081	-.1561	-.1644**
	(-1.19)	(-1.18)	(-1.61)	(-1.66)
TREATDUM ($x10^{-1}$)	-2514.	-2875.	-.0941	-.1986
	(-1.10)	(-1.14)	(-0.28)	(-0.54)
GARDEV ($x10^{-3}$)		1879.		1.134
		(0.13)		(0.53)
TAXDEV ($x10^{-3}$)		-6066.		-1.331
		(-0.37)		(-0.56)
R^2	.420	.410	.361	.351
(N)	(133)		(133)	
Joint (F) test for experimental effects	F1,120=1.21 p<.274	F3,118=0.44 p<.721	F1,120=0.08 p<.779	F3,118=0.20 p<.896
Dependent Variable:				
Mean	5311.		.4768	
S.D.	1625.		.2238	

Table 8 (cont.)

Independent Variable	Dependent Variable: Job Characteristic (Q_3)			
	Average Education		Duncan Status Score	
	(9)	(10)	(11)	(12)
CONSTANT	11.32* (10.19)	11.34* (10.14)	14.60** (1.96)	14.65** (1.92)
N CAR WHITE	-2.315* (-6.70)	-2.298* (-6.60)	.5775 (0.16)	.2187 (0.06)
N CAR BLACK	-2.593* (-7.79)	-2.614* (-7.73)	.3387 (0.11)	1.016 (0.31)
AGE ($x10^{-3}$)	-3.173 (-0.29)	-3.506 (-0.32)	-75.64 (-0.65)	-61.04 (-0.51)
EDUCATION ($x10^{-2}$)	5.731 (1.50)	6.009 (1.55)	50.49 (1.10)	50.06 (1.08)
SIZE ($x10^{-2}$)	1.762 (0.38)	1.114 (0.24)	58.31 (1.20)	60.17 (1.20)
WAGE INC ($x10^{-5}$)	16.28** (1.96)	17.94* (2.06)	17.17 (0.19)	5.105 (0.05)
NONWAGE DUM	-.3648 (-0.93)	-.3215 (-0.81)	-2.586 (-0.70)	-2.924 (-0.78)
FARM INC DUM	-.4159 (-1.26)	-.3421 (-1.00)	1.763 (0.40)	.7702 (0.17)
SEC EARN $ ($x10^{-4}$)	1.375 (0.76)	1.645 (0.89)	2.271 (0.12)	.4856 (0.02)
SEC EARN DUM	-.2086 (-0.84)	-.2110 (-0.84)	2.985 (0.71)	2.017 (0.68)
Job Characteristic (Q_0)	-.1836* (-1.98)	-.1920* (-2.02)	-.1461 (-1.17)	-.1679 (-1.30)
TREATDUM	-.01813 (-0.09)	.05189 (0.24)	-5.005* (-2.24)	-5.610* (-2.45)
GARDEV ($x10^{-3}$)		-2.743 (-0.22)		115.5 (0.89)
TAXDEV ($x10^{-2}$)		1.205 (0.86)		-14.33 (-0.93)
R^2	.483	.482	.073	.061
(N)	(133)		(118)	
Joint (F) test for experimental effects	F1,120=0.01 p<.927	F3,118=0.25 p<.859	F1,105=5.03 p<.027	F3,103=2.20 p<.092
Dependent Variable:				
Mean	8.517		17.33	
S.D.	1.646		11.94	

Table 8 (cont.)

Independent Variable	Dependent Variable[b]: Job Characteristic (Q_8)			
	Percent Earning>$7000		Percent Black[c]	
	(5)	(6)	(7)	(8)
CONSTANT	.3414* (3.43)	.3420* (3.39)	.4858* (4.51)	.5000* (4.64)
N CAR WHITE	-.2751* (-6.07)	-.2758* (-5.99)		
N CAR BLACK	-.2986* (-6.86)	-.2972* (-6.70)	.0822* (2.44)	.0682** (1.96)
AGE ($x10^{-4}$)	-1.542 (-0.11)	-1.353 (-0.10)	3.477 (0.20)	3.142 (0.18)
EDUCATION ($x10^{-3}$)	5.225 (1.08)	5.149 (1.05)	-8.907 (-1.52)	-8.071 (-1.37)
SIZE ($x10^{-3}$)	6.048 (1.02)	6.067 (0.99)	2.403 (0.34)	3.035 (0.42)
WAGE INC ($x10^{-5}$)	2.281* (2.14)	2.277* (2.05)	-3.377* (-2.38)	-3.545* (-2.39)
NONWAGE DUM ($x10^{-2}$)	-2.515 (-0.49)	-2.565 (-0.49)	4.609 (0.69)	4.806 (0.72)
FARM INC DUM ($x10^{-3}$)	4.175 (0.10)	2.858 (0.06)	-28.36 (-0.48)	-10.90 (-0.18)
SEC EARN $ ($x10^{-5}$)	1.646 (0.70)	1.584 (0.66)	-4.793** (-1.78)	-4.194 (-1.53)
SEC EARN DUM ($x10^{-2}$)	.1521 (0.05)	.8967 (0.03)	3.435 (0.90)	3.587 (0.94)
Job Characteristic (Q_0)	-.0379 (-0.46)	-.0404 (-0.48)	-.2338* (-2.37)	-.2695* (-2.68)
TREATDUM ($x10^{-2}$)	-2.362 (-0.93)	-2.665 (-0.96)	4.866 (1.49)	6.044** (1.78)
GARDEV ($x10^{-4}$)		4.174 (0.26)		-31.93 (-1.52)
TAXDEV ($x10^{-4}$)		-3.010 (-0.17)		16.82 (0.74)
R^2	.429	.422	.084	.088
(N)	(133)		(105)	
Joint (F) test for experimental effects	F1,120=0.87 p<.352	F3,118=0.31 p<.815	F1,93=2.21 p<.141	F3,91=1.64 p<.187
Dependent Variable:				
Mean	.2510		.3211	
S.D.	.2002		.1817	

Table 8 (cont.)

Independent Variable	Dependent Variable[b] Job Characteristic (Q_0)			
	Satisfaction with Job Content		Satisfaction with Financial Return	
	(13)	(14)	(15)	(16)
CONSTANT	121.6*	119.4*	124.9*	129.8*
	(2.23)	(2.13)	(4.98)	(5.01)
N CAR WHITE	-25.10	-25.35	19.86**	19.38**
	(-0.97)	(-0.98)	(1.72)	(1.67)
N CAR BLACK	-17.26	-11.74	10.18	8.138
	(-0.76)	(-0.50)	(0.99)	(0.77)
AGE ($x10^{-2}$)	6.623	22.26	-29.92	-36.00
	(0.08)	(0.26)	(-0.81)	(-0.95)
EDUCATION	1.640	1.788	-.4338	-.4895
	(0.51)	(0.55)	(-0.32)	(-0.36)
SIZE	2.789	2.425	.2758	.5913
	(0.80)	(0.67)	(0.18)	(0.37)
WAGE INC ($x10^{-4}$)	45.78	46.20	1.438	-3.107
	(0.71)	(0.68)	(0.05)	(-0.10)
NONWAGE DUM	-26.60	-27.36	1.336	.6923
	(-1.00)	(-1.01)	(0.11)	(0.06)
FARM INC DUM	18.89	16.97	6.859	4.819
	(0.61)	(0.72)	(0.50)	(0.33)
SEC EARN $ ($x10^{-4}$)	103.8	101.5	11.96	8.288
	(0.74)	(0.52)	(0.20)	(0.13)
SEC EARN DUM	33.68	33.18	-8.951	-9.444
	(1.62)	(1.59)	(-1.03)	(-1.08)
Job Characteristic (Q_0)	.2406*	.2132**	.02005	.01363
	(2.27)	(1.93)	(0.21)	(0.14)
TREATDUM	-35.74*	-39.24*	9.000	9.418
	(-2.25)	(-2.39)	(1.29)	(1.30)
CARDEV		.9081		-.3312
		(0.99)		(-0.83)
TAXDEV		-.3263		-.1245
		(-0.46)		(-0.26)
R^2 (N)	.044 (118)	.035	[d] (118)	[d]
Joint (F) test for experimental effects	F1,103=5.06 p<.027	F3,103=2.05 p<.112	F1,105=1.63 p<.201	F3,103=0.81 p<.493
Dependent Variable:				
Mean	225.2		123.3	
S.D.	95.34		47.39	

**Significant at p<.10

*Significant at p<.05

[a]Since the job characteristic values are means computed from different numbers of persons, it was necessary to correct for heteroskedasticity with the following transformation: Each observation was weighted by $\cdot n_i$, where n_i = the number of persons (in the census or Parnes files) from which the ith occupation/industry mean was computed; the term $\cdot n_i$ was introduced as a regressor, replacing the (suppressed) constant term. The R^2 values obtained after this transformation are no longer appropriate; the reported values for the R^2 are taken from untransformed equations.

[b]Entries are unstandardized regression coefficient; t-values are in parentheses.

[c]North Carolina subjects only.

[d]The coefficient of determination, corrected for attenuation, was negative.

into positions which have even better average earnings. There is also a tendency for subjects who have relatively more education to select new jobs which have higher earnings measures, relative to their pre-enrollment jobs. However, none of the treatment parameters evidence significant additive effects on these job earnings measures. While all TREATDUM coefficients are negative, none are significant at even the .20 level.

The status indices show similar patterns (models 7-12: percentage black, average education, and Duncan status score). North Carolina blacks and whites who change employers tend to accept positions whose incumbents have lower average education than do those in their pre-enrollment job. Blacks tend to move into positions with higher percentage black, net of the general negative effect of pre-enrollment percentage black. Head's wage income prior to the experiment has a positive impact on two of the status measures,[12] indicating again that subjects who started with good jobs tend to obtain even better ones when they change employers. Of greatest interest for the purpose of this study is the finding that experimentals tend to select jobs which have lower Duncan status scores and higher percentages black, relative to the jobs selected by controls.

The job satisfaction measures were not well accounted for by this model.[13] Subjects who had had positions with high job content satisfaction scores subsequently selected positions which also have high content satisfaction scores. North Carolina whites moved into positions whose incumbents reported more satisfaction with financial return, relative to the incumbents in jobs accepted by Iowans and North Carolina blacks. While again the three-variable specification

of the experimental treatment was not significant, the TREATDUM specification shows that experimentals strongly tended to select positions whose incumbents reported less satisfaction with job content, relative to controls.

To summarize the additive effects of the treatment, experimentals who changed employers tended to select jobs which had lower Duncan status scores, higher percentage black (in North Carolina), and lower job content satisfaction scores, relative to the positions accepted by comparable control group subjects. Note that the declines in mean earnings measures which Table 7 shows for experimentals were either not large enough to be statistically significant and/or were due to population differences between experimentals and controls, rather than to effects of the income maintenance payments per se.

Interaction Effects. While the provision of support payments has an additive effect on only three of eight characteristics of jobs selected by subjects, it is possible that such job selection effects of the payments are contingent upon certain subject attributes. For example, older individuals might adapt to income maintenance differently than younger men, or male family heads with working wives and income support might use different criteria for selecting jobs than heads who are the only labor force participants in their family. Investigation of these possibilities with regression techniques requires the addition of terms specifying interaction between the treatment formulations and subject attributes to the models specified by equation (5). Regression equation parts for all cases where these interactions are significant are presented in Table 9.

Table 9

Job Selection: Regression Equation Parts[a] for Significant Interactions with Experiment Parameters

Dependent Variable[c] (Q_8)	Subject or Q_0 Job Characteristic (V)	Regression Coefficients[b] V (1)	TREATDUM (2)	GARDEV (3)	TAXDEV (4)	TREATDUM xV (5)	GARDEV xV (6)	TAXDEV xV (7)	Joint (F) test for interactions with experimental parameters
1) Average Earnings	Secondary Earners Dummy	240.9 (0.66)	-273.3 (-0.86)	-51.86* (-2.33)	-11.78 (-0.60)	-546.5 (-0.88)	65.87** (1.93)	31.22 (0.86)	$F_{6,112}=2.76$ $p<.015$
	Secondary Earners $	-.2882 (-0.97)				.8566** (1.66)	.018[illegible] (0.90)	$.2662\times10^{-3}$ (0.01)	
2) Percent Earning >$5000	Percent Earning >$5000 ($Q_0$)	-.[illegible]589* (-2.50)	-.2127* (-2.42)			.4020* (2.50)			$F_{1,119}=6.25$ $p<.014$
3) Percent Earning >$5000	Secondary Earners Dummy ($\times10^{-3}$)	-7.0005 (-0.13)	-.02672 (-0.57)	-.00636** (-1.94)	-.00235 (-0.81)	-.03331 (-0.36)	.00920*** (1.84)	.005622 (1.06)	$F_{6,112}=2.45$ $p<.029$
	Secondary Earners $ ($\times10^{-6}$)	-8.349 (-0.19)				8.526×10^{-5} (1.12)	2.805×10^{-6} (0.93)	-1.375×10^{-6} (-0.35)	
4) Percent Earning >$7000	Percent Earning >$7000 ($Q_0$)	-.1390 (-1.60)	-.1186* (-2.92)			.3698* (2.93)			$F_{1,119}=8.56$ $p<.004$[d]
5) Percent Earning >$7000	N Car Black	-.2632* (-5.38)	.1928* (2.41)	-.01154* (-3.02)	.00401 (0.84)	-.2432* (-2.79)	.01542* (3.47)	-.00432 (-0.81)	$F_{6,112}=3.04$ $p<.009$
	N Car White	-.2495* (-4.76)				-.1721 (-1.56)	.01019** (1.85)	.00116 (0.17)	
6) Percent Earning >$7000	Secondary Earners Dummy	.03570 (0.89)	-.01387 (-0.40)	-.00598** (-2.44)	-8.808×10^{-4} (-0.40)	-.08583 (-1.25)	.00750** (2.00)	.002545 (0.63)	$F_{6,112}=3.03$ $p<.009$
	Secondary Earners $ ($\times10^{-5}$)	-2.849 (-0.86)				9.574×10^{-5} (1.68)	2.595×10^{-6} (1.15)	8.716×10^{-7} (.30)	

Table 9 (cont.)

Dependent Variable[c] (Q_8)	Subject or Q_0 Job Characteristic (V)	Regression Coefficients[b] V (1)	TREATDUM (2)	GARDEV (3)	TAXDEV (4)	TREATDUM xV (5)	GARDEV xV (6)	TAXDEV xV (7)	Joint (F) test for interactions with experimental parameters
7) Average Education	Average Education (Q_0)	-.2826* (-2.65)	-2.068** (-1.81)			.2348** (1.82)			F1,119=3.33 p<.070
8) Duncan Status Score	Duncan Status Score (Q_0)	-.2869** (-1.96)	-11.28* (-2.72)			.3872** (1.78)			F1,104=3.18 p<.078
9) Duncan Status Score	Secondary Earners Dummy	6.762** (1.85)	-3.391 (-1.22)			-10.56* (-2.00)			F2,103=2.94 p<.058[d]
	Secondary Earners $	-.00424 (-1.51)				.00896** (2.24)			
10) Satisfaction with Financial Return	Satisfaction with Financial Return (Q_0)	-.0835 (-0.75)	-39.36 (-1.40)			.3813** (1.78)			F1,103=3.18 p<.078

**Significant at p<.10

*Significant at p<.05

[a]The complete equations include the variables in Table 8, whose estimated effect were not significantly altered by the addition of interaction terms, except as noted in the text.

[b]Entries are unstandardized regression coefficients; t-values are in parentheses.

[c]Since the job characteristic values are means computed from different numbers of persons, it was necessary to correct for heteroskedasticity with the following transformation: Each observation was weighted by $\sqrt{n_i}$, where n_i = the number of persons (in the census or Parnes file) from which the ith occupation/industry mean was computed, the term $\sqrt{n_i}$ was introduced as a regressor, replacing the (suppressed) constant term.

[d]The group was also significant for the interactions with the three-variable treatment specification.

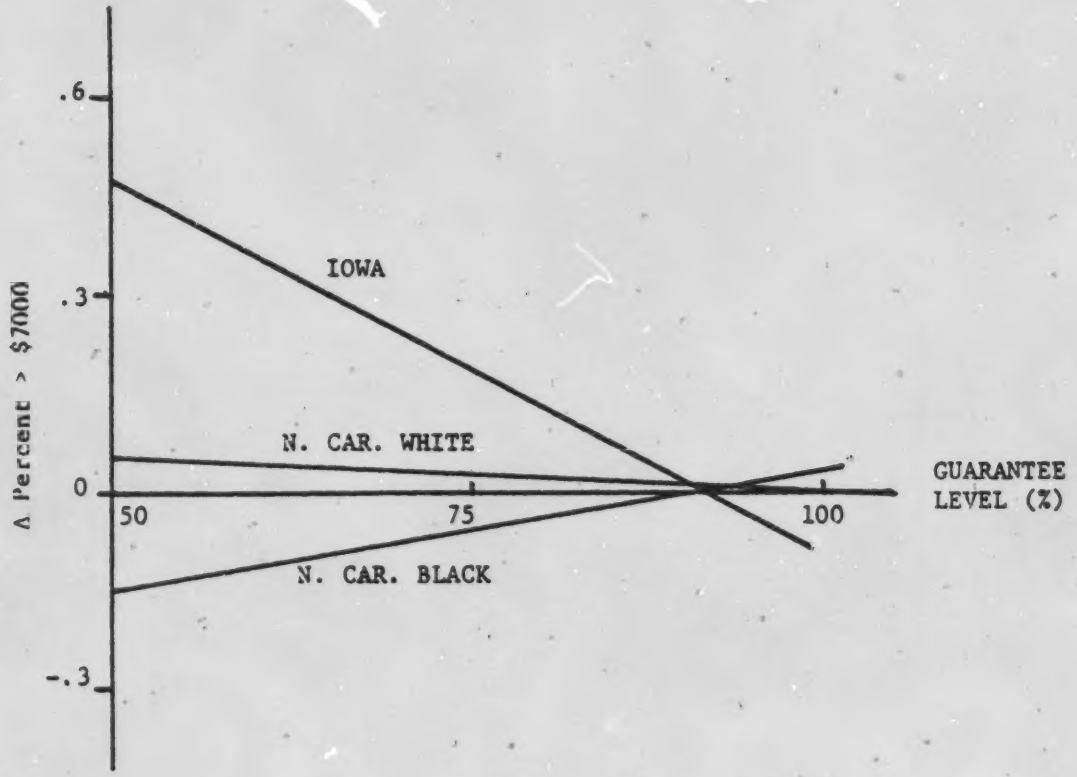
While only twelve of 144 possible sets of interaction terms (eight job characteristics x eight subject attributes and each pre-enrollment job characteristic x two treatment specifications) have F-statistics significant at the .10 level, they fall into three groups with consistent effects. These involve the region/ethnic groups, the pre-enrollment job's values, and secondary earners. Figures 8-10 present representative patterns for each group of significant interactions.

As a group, the three-variable treatment specification interaction with the region/ethnic dummy variables is significant only with respect to the percentage of incumbents earning more than $7000 (Table 9, model 5; Figure 8). However, the key interaction term in that group, guarantee level x North Carolina black, is also significant and consistent in the models for the other job earnings indices (average earnings and percent earning more than $5000). The pattern suggested by these results is that, as plan guarantee level increases, (1) North Carolina black experimentals tend slightly to select jobs with better (or less lower) earnings potentials than do controls, and (2) Iowan experimentals steeply reduce their gains relative to controls in earnings potentials of new jobs. North Carolina white experimentals show little difference from controls in relation to the percentage earning more than $7000 index, since their significant positive interaction with the guarantee level balances the negative additive effects of the guarantee level.

There is a very consistent pattern of interactions between the experimental/control dummy, TREATDUM, and the job characteristic scores

Figure 8

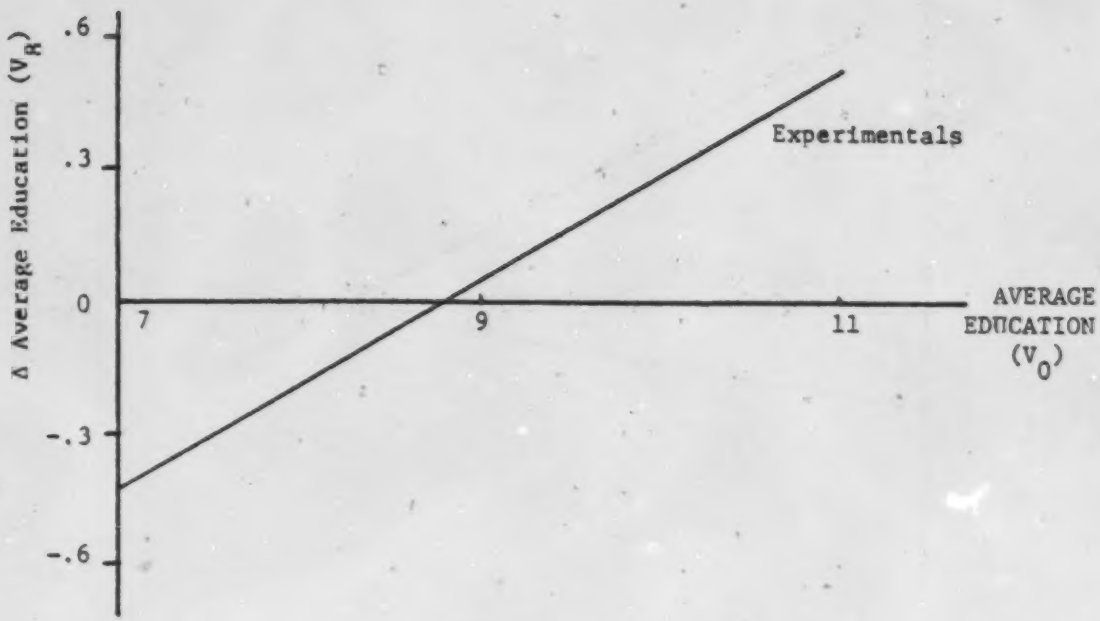
Interaction Effects of North Carolina Black with TREATDUM and Guarantee Level and of North Carolina White with TEATDUM on the Job Characteristic "Percent Earning More Than $7000 ($V_8$)"



Note: The contours compare the responses of region/ethnic group experimentals to similar controls (X-axis). The contours include the additive effects of TREATDUM and GARDEV and their interactions with the dichotemous region/ethnic variables. Tax rate equals 50 percent (TAXDEV = 0).

Figure 9

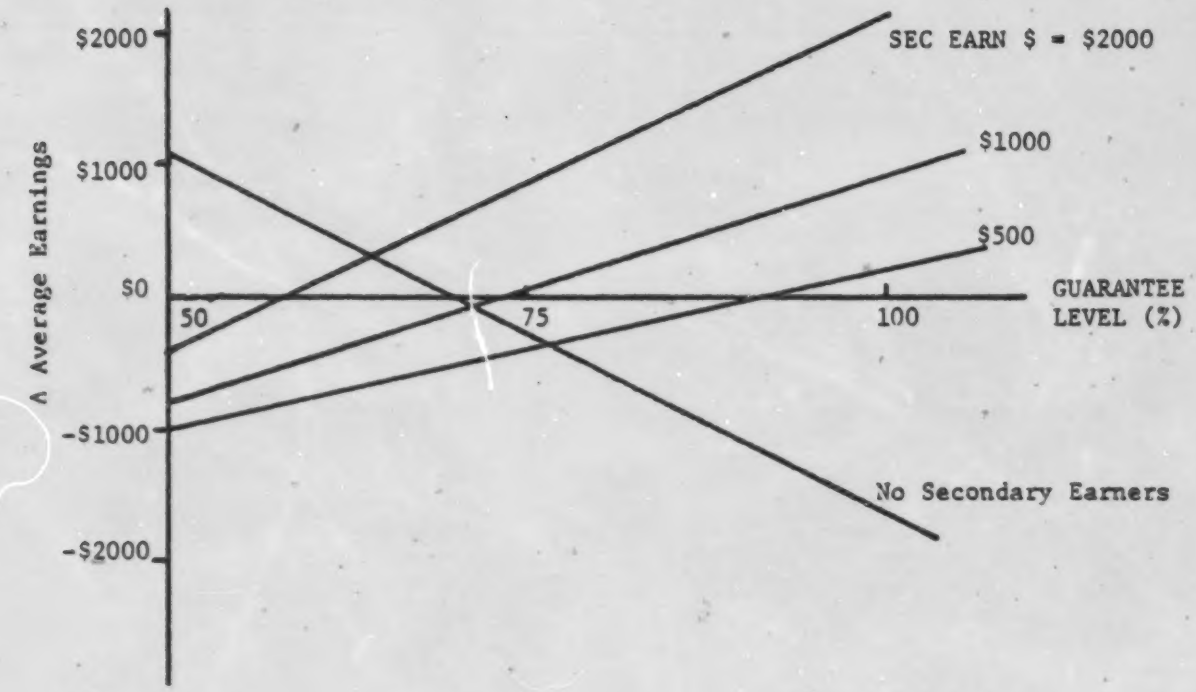
Interaction Effect Between TREATDUM and the Job Characteristic "Average Education (V_0)" on "Average Education (V_8)"



Note: The contour compares the eighth quarterly job characteristic for experimentals to that of controls (X-axis). It includes the additive effect of TREATDUM and its interaction with (V_0). Mean and standard deviation for "Average Education (V_0)" are 8.6 and 1.5.

Figure 10

Interaction Effects of Secondary Earners' Dollars with TREATDUM and of Secondary Earner Dummy with Guarantee Level (GARDEV) on the Job Characteristic "Average Earnings (V_8)"



Note: The vertical scale indicates the average earnings of incumbents of jobs held by experimentals at Q_8 relative to that of comparable controls (X-axis). The mean and standard deviation for positive values of pre-enrollment earnings by secondary earners (SEC EARN $) are $779 and $762; 37.2 percent of all subjects had secondary earners in their families at pre-enrollment. The contours include the additive effects of TREATDUM and GARDEV and their interactions with SEC EARN DUM and SEC EARN $. Tax rate equals 50 percent (TAXDEV = 0).

for subjects' pre-enrollment jobs (V_0 in equation (5); Table 9, models 2, 4, 7, 8, 10). These interactions are significant for five of eight job attributes, are nearly significant for the other three,[14] and have consistently positive coefficients for all eight attributes. As Figure 9 illustrates with respect to the average education of jobs' incumbents, supported heads who initially had less desirable positions experienced a decline in job desirability when they changed jobs, relative to comparable controls. Conversely, supported heads who had high ranked positions at pre-enrollment obtained more desirable jobs than did initially high ranked controls.

The third pattern of job selection interactions involves the role of secondary earners (see Table 9, models 1, 3, 6, and 9). These interactions reach significance for four of eight job characteristics (average earnings, percentage earning more than $5000 and $7000, and Duncan status score) and show a consistent direction of effects for the other four job attributes. In particular, the earnings value measures for jobs are positively affected by the interaction between the guarantee level and the dichotomous term indicating secondary earners in heads' families at pre-enrollment, SEC EARN DUM. Two of three job earnings measures are also positively related to the interaction between experimentals (TREATDUM) and the dollar earnings by secondary earners prior to pre-enrollment, SEC EARN $. As Figure 10 shows, supported heads of families without secondary earners obtain jobs with decreasing average earnings as a function of increasing guarantee level, while experimentals whose

families have secondary earners select jobs with increasing average earnings as treatment generosity increases. Further, this positive effect of secondary earners increases with increasing earnings by secondary earners. It is unclear how these patterns are to be interpreted, although some speculative suggestions are offered in the concluding section of this paper.

The last finding with regard to job selection behavior is actually a non-finding. It was reported above that no tendency could be detected for whites to leave high percentage black positions, either overall or in conjunction with support payments. The models for percentage black in eighth quarterly jobs similarly evidence no tendency among supported whites (or blacks) who were initially in high percentage black position to select jobs with lower percentage black scores. Indeed, no significant interaction effects by the treatment parameters were found for this job characteristic. Again, however, it is necessary to be cautious about this result because of the limitations of this variable as an index of the percentage black in any actual work environment.

In summary, there is some evidence that experimentals who change employers obtain jobs which are less desirable on nonmonetary dimensions and that this tendency is most pronounced among experimentals who initially had less desirable positions. Indeed, experimentals who left jobs which had high earnings and status scores were able to obtain better positions than similar controls. Two other patterns of experimental response are linked with the level of income support

provided. First, Iowa experimentals on low-guarantee plans experienced large gains in the income characteristics of their jobs after employment transitions, but these gains were much less for those on higher guarantee plans. However, North Carolina blacks with higher guarantee levels selected jobs with greater earnings potentials, although those with low guarantee treatments did not do as well as controls. Second, supported heads with secondary earners in their families were able to obtain jobs with better earnings prospects and higher status, particularly if they were on high guaranteee plans and the secondary earner had relatively high earnings. Conversely, as plan generosity increased, supported heads without secondary earners at pre-enrollment tended to get less desirable positions. These patterns may be linked since North Carolina black families are more likely to have secondary earners (see Table 1).

7. SUMMARY, COMPARISONS, AND CONCLUSIONS

The objective of this paper has been to examine some aspects of job change behavior by wage earners for evidence of experimental effects, rather than to test particular hypotheses. In this section the findings are summarized, examined for consistent patterns across the aspects of job transition, and compared to the results of a parallel study conducted for the New Jersey-Pennsylvania Graduated Work Incentive Experiment.

Summary Findings. The first issue addressed in the paper concerns the impact of support payments on subjects' probabilities of changing employers. While no additive effects by several formulations of the treatment were

found, there are a number of significant interactions between the treatment parameters and subjects' wage income and pre-enrollment job characteristics. These indicate that, relative to similar control group subjects, experimentals who initially had desirable positions are less likely to leave their employer, while experimentals with less desirable positions are more likely to change employers. There is some evidence that these tendencies increase with increasing plan generosity. It was suggested that workers with relatively good jobs, who perhaps could not expect to improve their earnings much under an employment transition, view the support payments as a wage subsidy and increase their probably already high satisfaction with their present jobs. Subjects with low paying and lower status jobs, however, potentially have more to gain (or less to lose) from a job shift and the support payments enable them to schedule their work activity accordingly.

The second issue is the impact of income maintenance on duration of unemployment for wage earners who left their pre-enrollment employer. This was addressed by examining determinants of the total number of weeks that subjects were unemployed during the first two years of the experiment. Overall, experimentals were found to be unemployed about three more weeks than controls.[15] This effect varies with certain attributes of subjects and in some cases with the generosity of maintenance plans. In general, experimentals who could expect to increase their total income the most with re-employment were unemployed least, while those who could anticipate less net gain in income were unemployed more total weeks.

This was evidenced by a number of findings. (1) Experimentals with low pre-enrollment wage income were unemployed longest; those with high wage incomes initially were unemployed about as long as similar controls. (2) Among experimentals whose families had secondary earners, those whose earnings were "taxed" at low rates were unemployed less; those with high tax rates were unemployed longer. (3) Older and less educated experimentals on low guarantee plans were unemployed somewhat less than controls but increased their unemployment durations with increasing guarantee levels. These workers are the most disadvantaged in the labor market and perhaps tended to substitute leisure for work activity when the support level was sufficient. On the other hand, younger and better educated experimentals evidenced the opposite pattern: longer unemployment at low guarantee levels, where appreciable transfers might only come with unemployment; progressively less unemployment as guarantee level increased.

The support payments also affected subjects' duration of unemployment in conjunction with the family size and region/ethnic group of the subjects. Heads of large families were apparently unable to reschedule work activity even with support payments, while experimentals with small families were unemployed more weeks than comparable controls. Finally, Iowa and North Carolina black experimentals were unemployed longer than controls, but North Carolina whites were unemployed a few weeks less.

The third issue concerns the impact of negative tax transfers on subjects' selection of jobs under employment transition.[16] Characteristics of jobs held at the eighth quarterly by subjects who had

changed employers were regressed on the treatment specifications, subject attributes, and corresponding characteristics of their pre-enrollment positions. Some evidence was found that experimentals, relative to controls, obtained jobs which were less desirable on status and job satisfaction dimensions; this tendency was most pronounced among experimentals whose initial jobs were low ranked. These experimentals also experienced the largest decline in income characteristics of jobs. The same experimentals were more likely to change employers and were unemployed longer than similar controls.[17] For these workers at the bottom of a low-income sample, economic rationality is consistent with decreased work effort and a less demanding approach to job selection.

Other experimentals improved their positions after employment transitions. The relationships here are more complex. First, experimentals with initially high ranked jobs tend to obtain better positions than similar controls. Similar experimentals were least likely to change employers and those that did were unemployed only about as much as controls. Apparently these experimentals made strategic decisions to change jobs, aided by the provision of support payments.

Secondly, the 42 percent of the experimental heads who had secondary earners in their families also improved the earnings (and status) characteristics of their jobs with employment transition and the gain was greater the more the secondary income and the higher the guarantee level. Similarly, experimentals with secondary earners decreased their total unemployment duration as a function of decreasing tax rate (i.e., increasing plan generosity). It was suggested that unemployment duration is related to anticipated net income gain after reemployment.

For example, consider a family of four with secondary earnings of $1000 and a guarantee level of 75 percent of poverty level income. The net income gain from reemployment at an annual wage rate corresponding to the mean pre-enrollment wage income would be $2380 at the 30 percent tax rate, but only $1489 for the 70 percent tax rate.[18]

It is less clear why job transition gains for these experimentals would be related to the guarantee. Possibly some job selection decisions were based on anticipated changes in support amounts rather than on net gains. While the net income gain from reemployment is somewhat less at high guarantee levels than at low levels, for a constant tax rate, only families supported at the higher levels would receive any income maintenance transfers when the head had the mean level of pre-enrollment earnings and secondary earnings totaled $1000. For these workers, obtaining a better position would not entail a complete loss of income support, as it would for those on low guarantee plans.

An alternative explanation involves the interpersonal dynamics in supported families with several wage earners. Husbands of working wives may particularly desire to improve their earnings potentials, either to match (or exceed) their spouses' earnings or to enable their spouse to leave the labor force. This tension could be amplified by the provision of income support on a temporary basis. A high guarantee level may have enabled secondary workers to drop out of the labor force or raised that possibility within the family.[19] The head then may seek to obtain a better position so that the other earner can actually leave the labor force or does not have to resume working when income maintenance

support is discontinued. In fact, the steepest slope across guarantee levels, and thus the greatest response to guarantee variation, was found for those with the highest levels of secondary earnings. Minimal transfers would be received by families on low guarantee plans who have several earners. The possibility that the transfers could enable a secondary earner to stop working is then also minimal. Indeed, at low guarantee levels, those with the largest secondary earnings evidenced job selections which were quite similar to the control group's selections. In any case, no consistent additive effects were found relating the secondary earner variables to unemployment or to eighth quarterly job characteristics, indicating that the impact of secondary earners on job change behavior was restricted to experimental subjects.[29]

Experimentals without secondary earners at pre-enrollment evidenced a negative relationship between expected earnings measures and the guarantee level. These experimentals were also unemployed about five weeks longer than similar controls. Those on high guarantee plans may have viewed the transfers as earnings subsidies which reduced the financial pressure to seek reemployment and to obtain well-paying jobs. Those on low guarantee plans would probably receive significant transfers only when unemployed. They may have used the support payments during unemployment to engage in more thorough and rewarding job searches than they could otherwise afford. Unfortunately this study lacks the data to explore these possibilities and the interpretations offered here are speculative.

Finally, the region/ethnic groups sampled by the Rural Income Maintenance Experiment were found to behave differently with respec

to both job selection and unemployment duration. As noted above, Iowa experimentals were unemployed longer and those on low guarantee plans made significant gains in job income characteristics. These gains decreased steeply with increasing guarantee level. North Carolina black experimentals were also unemployed somewhat longer than controls and tended to fare less well than controls under job transitions, although this tendency was minimal at higher guarantee rates. North Carolina white experimentals were unemployed slightly less and evidenced little or no response as a group to guarantee level in relation to job selection behavior. No obvious interpretation is seen for these region/ethnic differences, other than to note that Iowans' responses at low guarantee levels are consistent with the possibility that longer job searches are used to obtain better positions.

Comparison With the Urban New Jersey-Pennsylvania Experiment. Some comparison is in order with the findings of a similar study conducted for the New Jersey-Pennsylvania Graduated Work Incentive Experiment (GWIE) by Professor Seymour Spilerman and the author (1976). That experiment took place in urban areas of the northeast and its sample consisted almost entirely of wage earners. While the general strategy of each study was similar, there are a number of critical differences between them which prohibit strict comparisons of results. Such comparisons cannot be made due to differences in the samples (urban vs. rural, inclusion of a Spanish-speaking subsample in the GWIE) and in job opportunities and other key features of the locales. The studies also differ importantly in the specifications

of some treatment parameters and control variables. Major similarities and contrasts are thus noted with only brief comment and occasional interpretation.

With regard to job departure responses, the GWIE study found some evidence that turnover decreased as a function of plan generosity, particularly among experimentals in less desirable positions at pre-enrollment. The present study found a different pattern: experimentals in low ranked jobs were more likely to leave their employer; those in higher ranked positions were less likely. These patterns may reflect a lower ceiling in rural labor markets or possibly greater returns to leisure in a rural environment.

This study found that experimentals with low pre-enrollment wage incomes were unemployed more total weeks than controls or experimentals with higher wage earnings and that older and less educated subjects increased unemployment with increasing plan generosity. In contrast, the GWIE study found that similar experimentals were unemployed less with increasing support generosity--a finding consistent with their job departure response.

The studies do find strikingly parallel results with respect to the impact on unemployment duration of secondary earners in conjunction with treatment tax rates. As in the present study, the GWIE report finds that supported heads with supplementary incomes from other family members reduce unemployment duration when on low tax rate plans. The possibility of an interaction effect between such income and the treatment parameters on job selection was not explored by the GWIE study.

With respect to job selection behavior, the GWIE study found divergent patterns for ethnic subsamples. The relatively small size of the wage earner subsample used by the present study prohibited a similarly detailed investigation of the region/ethnic groups. Nonetheless, several results of each study are of interest. The consistent tendency for experimentals (both black and white) in low ranked positions at pre-enrollment to experience subsequent reductions in earnings and status characteristics of jobs when making a change, and the opposite pattern for those initially in high ranked positions, were also reported for the white subsample in the GWIE study. Blacks in the GWIE sample evidenced roughly the reverse pattern with regard to earnings characteristics of jobs. Finally, unlike the urban GWIE sample, our subjects' job selection behavior was not contingent upon interactions between plan generosity and age or education levels. The reader is cautioned again that sample and analysis differences between these studies make both similarities and contrasts in the findings very tentative.

Conclusion. A number of policy implications result from the findings of this study of job change behavior. There is evidence that an income maintenance program would increase the employment stability of rural wage earners who have relatively good jobs, particularly if the support level was fairly generous. While workers with poorer jobs may decrease their work activity, an upgrading of particularly unremunerative positions could conceivably minimize this effect. Higher guarantee levels were found to minimize the total unemployment duration of younger and better educated wage earners. Income support also enabled some workers with fairly good positions to make transitions to even better jobs. Families

with secondary earners were particularly benefited by income maintenance, making gains after employment transition which were positively related to their guarantee level and doing so with minimal unemployment periods when the tax rate was also minimal. Finally, no evidence of a general disincentive effect or decrease in work motivation has been found.

Appendix A.

Construction of the Job Satisfaction Measures

The Parnes interview schedule included an item asking respondents to list three features of their jobs which were particularly satisfying. The responses were classified by the Longitudinal Study into 25 job aspects. Since respondents had a limited number of choices and could be expected to spread them over different satisfaction dimensions, it was felt that a factor analysis would fail to identify underlying dimensions. Time constraints dictated a simple procedure of grouping items which a priori appear to address common job aspects. Using a subset of the items, two scales tapping key job satisfaction dimensions were constructed by calculating the relative frequency with which its items were cited by incumbents of each occupation/industry combination. The items used for the satisfaction scales are:

A. Satisfaction with job content:
   1. Liking the kind of work
   2. Job is important, gives satisfaction
   3. Job has variety, is interesting
   4. Job has responsibility
   5. Meet interesting people

B. Satisfaction with financial rewards:
   1. Good wages
   2. Good fringe benefits.

APPENDIX B

Regression Coefficients of Job Characteristics from Additive Models for Job Departures[a]

Job Characteristic (V)	Coefficient[b]
Census variables:	
Average Earnings ($\times 10^{-5}$)	-1.598
	(-0.57)
Percent in job with earnings	-9.321
> \$5,000 ($\times 10^{-2}$)	(-0.48)
Percent in job with earnings	7.632
> \$7,000 ($\times 10^{-2}$)	(0.34)
Percent black ($\times 10^{-1}$)	-1.314
	(-0.63)
Average Education ($\times 10^{-2}$)	-6.596*
	(-2.43)
Parnes variables:	
Duncan status score ($\times 10^{-3}$)	-4.821
	(-1.53)
Satisfaction with -	-6.136**
Job content ($\times 10^{-4}$)	(-1.85)
Financial return ($\times 10^{-3}$)	1.697*
	(2.35)

*Significant at $p < .05$

**Significant at $p < .10$

[a]The complete equations are specified by the addition of a job characteristic (V) to model 1 of Table 3. Each coefficient here resulted from a separate regression model. Coefficients and significance levels for subject attributes were not substantially altered by this addition of a job characteristic to the model.

[b]Entries are unstandardized regression coefficients; t-statistics are in parentheses.

FOOTNOTES

[1]A group of about 40 subjects whose primary source of income was from wages were excluded from the analysis because they gave their pre-enrollment occupation as "farmer." Few of them reported any farm income in the previous year. Since job characteristics of the pre-enrollment occupation are used in the analysis, it was felt that inclusion of these subjects would introduce inaccurate data.

[2]Job characteristics for positions held by Iowa sample family heads were derived from census data for nonmetropolitan areas in Iowa, Illinois, and Wisconsin. Census data for nonmetropolitan areas in North Carolina, South Carolina, and Georgia were applied to the North Carolina sample heads.

[3]Since blacks are over-represented in "dead end" jobs (positions with little mobility prospects and in unstable entry-level jobs), and because of the traditional exclusion of blacks from many desirable occupations, the variable "percent black in a position" was used as an indicator of low job attractiveness and is discussed together with the status measures.

[4]The Parnes study also included a data set for young males (14-24), which was not used because few persons in this age category would have been employed.

[5]Note that <u>low</u> percent black corresponds to <u>high</u> status. Consequently, the contributions of the respective terms to high status is indicated by the coefficients in the percent black equation with their signs <u>reversed</u>.

[6]These results were not substantially changed when terms for the square of heads' age and education were added to the models.

[7]There is a statistical problem in using a dichotemous dependent variable because the assumption of homoscedasticity is no longer valid. While the least squares estimators of the regression coefficients

will still be unbiased, their standard errors will be biased and inconsistent. Although one alternative is to use the two stage method described in Goldberger (1964:248-250), this procedure breaks down for observations in which the estimated values of the dependent variable in the first stage are less than zero or in excess of unity. Alternate methods such as probit and discriminent analysis are computationally cumbersome and not preferable to ordinary least squares (Ashenfelter, 1969a, quoted in Comay, 1971:333-344). Moreover, for a similar situation Ashenfelter (1969b:644-650) reports that hypothesis tests using least squares estimates tend to be conservative, in that the true significance levels are likely to be higher. Additionally, the non-extreme mean (68.9 percent) for this dependent variable increases our confidence in the use of least squares regression.

[8]It is noteworthy that, for each case where a significant interaction was found between a subject or job attribute and one or more of the treatment specifications, a consistent pattern of signs of coefficients was found for the interactions between the other treatment specifications and the attribute.

[9]Note that percent black is used as a negative measure of status, so that a shift to a lower percent black position is interpreted as a status gain. The signs of coefficients in percent black equations must be reversed for consistent interpretations with the other status measures.

[10]Because the job characteristic scores are means computed from different numbers of persons, it was necessary to correct for heteroscedasticity in the error term. The transformation described earlier in connection with Table 2 was used for this correction.

[11]The ambiguity concerns the appropriate specification for individuals who experienced moderate length unemployment intervals. It is reasonable that BENEFIT 1 could estimate a family's expectations about payments when very short unemployment periods were experienced. BENEFIT 2 would be appropriate for those who had long durations of unemployment. However, it is not clear what the best stimulus measure would be for heads with moderate (two or eight weeks) unemployment.

[12]Note again that low percent black is interpreted as an indication of higher status.

[13]See Appendix A for details on the construction of the job satisfaction indices.

[14]The t-statistic (and significance level) for the interactions between TREATDUM and the three Q_0 job attributes with significance

above the .10 level are as follows: (1) average earnings 1.43 (.154); (2) percent black 1.63 (.106); (3) job content satisfaction 1.27 (.206). The positive coefficient for percent black x TREATDUM is inconsistent in terms of interpretation with the other models.

[15] Luther Tweeten found no experimental impact on the duration of any one unemployment episode but did report a positive effect of the guarantee level on the number of times subjects were unemployed in a quarter. While his analysis also dealt with wage earners only, he used a different subsample--the 52 subjects unemployed at the time of a quarterly interview. See chapter seven of volume III.

[16] Tweeten examines actual wage gains or losses after employment transitions for a subsample described in the previous footnote. He reports a strong positive effect of past wages on wage gains, which is consistent with results reported here. He also finds negative effects for the tax rate and guarantee level, such that subjects on high tax and guarantee plans experienced wage rate losses, while subjects on low tax and guarantee plans report wage rate gains. See chapter seven of this volume.

[17] Experimentals with low pre-enrollment wage incomes were unemployed longest; wage income correlated .571 with average earnings of pre-enrollment position. Thus the argument is made here and below that subjects with low or high ranked jobs at pre-enrollment (which is related to job departure and selection) are essentially the same subjects who have low or high wage income at pre-enrollment (which is related to unemployment duration).

[18] Total income equals earned income plus support payments. When unemployed with secondary earnings of $1000 and a guarantee level of 75 percent, total annual income is $1000 + (.75 x $3482) - (tax x $1000) or $3311 for tax rate 30 percent and $2911 for the 70 percent tax rate. Mean pre-enrollment wage income is about $3400. After employment at this rate, total annual income is $4400 + (.75 x $3482) - (tax x $4400) or $5691 (30 percent tax) and $4400 (70 percent tax). Poverty level income is for 1969-70.

[19] Lee Bawden reports a strong tendency for fewer experimental than control wives of wage earners to be employed. He found that control wives increased their participation in the labor force. Thus, in addition to some experimental spouses dropping out, other experimentals may not have entered or reentered the labor force because of the support payments. Again, their husbands would then have incentives arising from family dynamics to seek better positions so

that spouses would not have to find employment when support was discontinued. See chapter four of volume III.

[20]This conclusion is slightly tempered by two findings. The secondary earners dummy has a positive additive effect on Duncan status score (V_8) when interaction terms are added to the model (Table 9, model 9). The pre-enrollment dollar earnings by secondary earners have a weak additive negative effect on the job characteristic "percent black (V_3)" (Table 8, column 7), but no interaction effects were detected for this job attribute.